GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 08:45:52 ; Search time 62.59 Seconds
(without alignments)
12.170 Million cell updates/sec

Title: US-09-462-089-1
Perfect score: 63
Sequence: 1 EHWSYGLRPG 10

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 219241 seqs, 76174552 residues

Total number of hits satisfying chosen parameters: 219241

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_68:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	60	95.2	10	1	RHPGG	gonadoliberin - pi
2	60	95.2	10	1	RHSHG	gonadoliberin - sh
3	60	95.2	67	2	I78541	gonadoliberin prec
4	60	95.2	89	2	I51423	gonadoliberin prec
5	60	95.2	90	1	RHMSG	gonadoliberin prec
6	60	95.2	92	1	RHHUG	gonadoliberin prec
7	60	95.2	92	1	RHRTG	gonadoliberin prec
8	56	88.9	10	1	RHAQ1	gonadoliberin I -
9	56	88.9	92	2	I50644	gonadoliberin I pr
10	54	85.7	98	2	I50739	gonadotropin-relea
11	50	79.4	80	1	RHID1S	gonadoliberin I pr
12	50	79.4	91	2	JC7393	medaka-type gonado
13	47	74.6	10	2	A21114	gonadoliberin - ch
14	47	74.6	74	2	I51092	gonadotropin relea
15	47	74.6	82	2	I51180	gonadotropin-relea
16	47	74.6	82	2	I51355	gonadotropin relea
17	47	74.6	82	2	I51365	gonadotropin-relea
18	47	74.6	82	2	I51331	gonadotropin relea
19	47	74.6	90	2	JC7395	salmon-type gonado
20	47	74.6	90	2	A23735	gonadoliberin prec
21	47	74.6	90	2	I51095	gonadoliberin prec
22	42	66.7	10	1	RHAQ2	gonadoliberin II -
23	42	66.7	10	1	A61126	gonadoliberin - sp
24	42	66.7	10	2	A49187	gonadotropin-relea
25	42	66.7	10	2	A46030	gonadoliberin I -
26	42	66.7	10	2	B46030	gonadoliberin II -
27	42	66.7	80	2	JC7394	chicken-II-type go
28	42	66.7	85	2	A53453	gonadoliberin II p
29	42	66.7	86	1	RHID2S	gonadoliberin II p
30	42	66.7	828	2	T08556	hypothetical prote
31	41	65.1	316	2	A53440	aldose reductase h
32	41	65.1	532	2	T32849	hypothetical prote
33	40	63.5	551	2	E64728	yabN protein - Esc
34	40	63.5	552	2	B85489	probable transport
35	40	63.5	565	2	G82443	conserved hypothet
36	40	63.5	584	2	JQ1229	cellulase (EC 3.2.
37	40	63.5	1000	2	C82630	serine proteinase
38	39	61.9	345	2	A58519	hypothetical 345 p
39	39	61.9	388	2	C72710	probable fmu prote
40	39	61.9	417	2	T33827	hypothetical prote
41	39	61.9	501	2	T32848	hypothetical prote
42	39	61.9	508	2	T01937	hypothetical prote
43	39	61.9	1444	2	T18856	angiogenesis inhib
44	38	60.3	161	2	D84472	hypothetical prote
45	38	60.3	293	2	G72699	hypothetical prote

ALIGNMENTS

RESULT 1
RHPGG
gonadoliberin - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 13-Jul-1981 #sequence_revision 13-Jul-1981 #text_change 18-Mar-1997
C;Accession: A01411
R;Baba, Y.; Matsuo, H.; Schally, A.V.
Biochem. Biophys. Res. Commun. 44, 459-463, 1971
A;Title: Structure of the porcine LH- and FSH-releasing hormone. II. Confirmation of
A;Reference number: A90172; MUID:72114303
A;Accession: A01411
A;Molecule type: protein
A;Residues: 1-10 <BAB>
R;Matsuo, H.; Arimura, A.; Nair, R.M.G.; Schally, A.V.
Biochem. Biophys. Res. Commun. 45, 822-827, 1971
A;Title: Synthesis of the porcine LH- and FSH-releasing hormone by the solid-phase me
A;Reference number: A90176; MUID:72065376
A;Contents: annotation; synthesis
A;Note: the synthetic and natural hormones have the same physicochemical and biologic
R;Baba, Y.; Arimura, A.; Schally, A.V.
Biochem. Biophys. Res. Commun. 45, 483-487, 1971
A;Title: On the tryptophan residue in porcine LH and FSH-releasing hormone.
A;Reference number: A90175; MUID:72117544
A;Contents: annotation
A;Note: Trp-3 appears to be essential for biological activity
C;Comment: This hypothalamic hormone stimulates the secretion of both luteinizing and
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 95.2%; Score 60; DB 1; Length 10;
Best Local Similarity 90.0%; Pred. No. 0.00022;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 EHWSYGLRPG 10
          :|||||||||
Db      1 QHWSYGLRPG 10
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RESULT 2
RHSHG
gonadoliberin - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 18-Mar-1997
C;Accession: A93780; A01411
R;Burgus, R.; Butcher, M.; Amoss, M.; Ling, N.; Monahan, M.; Rivier, J.; Fellows, R.;
Proc. Natl. Acad. Sci. U.S.A. 69, 278-282, 1972
A;Title: Primary structure of the ovine hypothalamic luteinizing hormone-releasing fa
A;Reference number: A93780; MUID:72094314
A;Accession: A93780

A;Molecule type: protein
A;Residues: 1-10 <BUR>
A;Note: the natural and synthetic hormones have the same biological activity
C;Comment: This hypothalamic hormone stimulates the secretion of both luteinizing and fo
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 95.2%; Score 60; DB 1; Length 10;
Best Local Similarity 90.0%; Pred. No. 0.00022;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EHWSYGLRPG 10
:|||||||||
Db 1 QHWSYGLRPG 10

RESULT 3
I78541
gonadoliberin precursor - rhesus macaque (fragment)
N;Alternate names: luteinizing hormone releasing hormone
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
C;Accession: I78541
R;Ma, Y.J.; Costa, M.E.; Ojeda, S.R.
Neuroendocrinology 60, 346-359, 1994
A;Title: Developmental expression of the genes encoding transforming growth factor alpha
A;Reference number: I58134; MUID:95124501
A;Accession: I78541
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-67 <RES>
A;Cross-references: GB:S75918; NID:g912831; PIDN:AAB33096.1; PID:g912832
C;Superfamily: gonadoliberin

Query Match 95.2%; Score 60; DB 2; Length 67;
Best Local Similarity 90.0%; Pred. No. 0.0017;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EHWSYGLRPG 10
:|||||||||
Db 6 QHWSYGLRPG 15

RESULT 4
I51423
gonadoliberin precursor - African clawed frog
N;Alternate names: luteinizing hormone releasing hormone
C;Species: Xenopus laevis (African clawed frog)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C;Accession: I51423
R;Hayes, W.P.; Wray, S.; Battey, J.F.
Endocrinology 134, 1835-1845, 1994
A;Title: The frog GnRH-I gene has a mammalian-like expression pattern and conserved doma
A;Reference number: I51423; MUID:94185563
A;Accession: I51423
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-89 <HAY>
A;Cross-references: GB:L28040; NID:g496291; PIDN:AAA49728.1; PID:g496292
C;Genetics:
A;Gene: GnRH-I
C;Superfamily: gonadoliberin

Query Match 95.2%; Score 60; DB 2; Length 89;
Best Local Similarity 90.0%; Pred. No. 0.0022;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EHWSYGLRPG 10
:|||||||||
Db 24 QHWSYGLRPG 33

RESULT 5
RHMSG
gonadoliberin precursor - mouse
N;Alternate names: gonadotropin-releasing hormone (GnRH); luteinizing hormone releasi
N;Contains: gonadoliberin; gonadoliberin-associated protein (GAP)
C;Species: Mus musculus (house mouse)
C;Date: 31-Dec-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
C;Accession: A47578
R;Mason, A.J.; Hayflick, J.S.; Zoeller, R.T.; Young III, W.S.; Phillips, H.S.; Nikoli
Science 234, 1366-1371, 1986
A;Title: A deletion truncating the gonadotropin-releasing hormone gene is responsible
A;Reference number: A47578; MUID:87069928
A;Accession: A47578
A;Molecule type: DNA
A;Residues: 1-90 <MAS>
A;Cross-references: EMBL:M14872; NID:g193576; PIDN:AAA37717.1; PID:g387175
C;Genetics:
A;Introns: 45/3; 77/3
C;Function:
A;Description: gonadoliberin stimulates pituitary secretion of lutropin and follitrop
A;Note: gonadoliberin-associated protein may have prolactin release inhibiting activi
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1-23/Domain: signal sequence #status predicted <SIG>
F;22-31/Product: gonadoliberin #status predicted <GLB>
F;35-90/Product: gonadoliberin-associated protein #status predicted <GAP>
F;22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predic
F;31/Modified site: amidated carboxyl end (Gly) (amide in mature form from following

Query Match 95.2%; Score 60; DB 1; Length 90;
Best Local Similarity 90.0%; Pred. No. 0.0023;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EHWSYGLRPG 10
:|||||||||
Db 22 QHWSYGLRPG 31

RESULT 6
RHHUG
gonadoliberin precursor [validated] - human
N;Alternate names: gonadotropin releasing hormone (GnRH); luteinizing hormone releasi
N;Contains: gonadoliberin-associated protein (GAP); progonadoliberin
C;Species: Homo sapiens (man)
C;Date: 17-Mar-1987 #sequence_revision 21-Jul-1995 #text_change 08-Dec-2000
C;Accession: S05308; A26173; A93342; A90108; A01410; S45718
R;Hayflick, J.S.; Adelman, J.P.; Seeburg, P.H.
Nucleic Acids Res. 17, 6403-6404, 1989
A;Title: The complete nucleotide sequence of the human gonadotropin-releasing hormone
A;Reference number: S05308; MUID:89366682
A;Accession: S05308
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-92 <HAY>
A;Cross-references: EMBL:X15215; NID:g31955; PIDN:CAA33285.1; PID:g31956
R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H.
Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A;Title: Isolation of the gene and hypothalamic cDNA for the common precursor of gona
A;Reference number: A94090; MUID:86094338
A;Accession: A26173
A;Molecule type: mRNA
A;Residues: 1-92 <ADE>
A;Cross-references: GB:M12578; NID:g183418; PIDN:AAA35916.1; PID:g386749
A;Experimental source: hypothalamus
R;Seeburg, P.H.; Adelman, J.P.
Nature 311, 666-668, 1984
A;Title: Characterization of cDNA for precursor of human luteinizing hormone releasin
A;Reference number: A93342; MUID:85012739

A;Accession: A93342
A;Molecule type: mRNA
A;Residues: 1-15,'S',17-92 <SEE>
A;Cross-references: GB:X01059; NID:g34356; PIDN:CAA25526.1; PID:g34357
A;Experimental source: placenta
R;Tan, L.; Rousseau, P.
Biochem. Biophys. Res. Commun. 109, 1061-1071, 1982
A;Title: The chemical identity of the immunoreactive LHRH-like peptide biosynthesized i
A;Reference number: A90108; MUID:83126573
A;Accession: A90108
A;Molecule type: protein
A;Residues: 24-33 <TAN>
A;Experimental source: placental trophoblasts
R;Leibovitz, D.; Koch, Y.; Pitzer, F.; Fridkin, M.; Dantes, A.; Baumeister, W.; Amsterda
FEBS Lett. 346, 203-206, 1994
A;Title: Sequential degradation of the neuropeptide gonadotropin-releasing hormone by t
A;Reference number: S45718; MUID:94283597
A;Contents: annotation; degradation pathway of synthetic hormone
C;Genetics:
A;Gene: GDB:GNRH; LHRH; GRH
A;Cross-references: GDB:133746; OMIM:227200; OMIM:152760
A;Map position: 8p21-8p11.2
A;Introns: 47/3; 79/3
C;Function:
A;Description: gonadoliberin stimulates pituitary secretion of lutropin and follitropin
A;Note: gonadoliberin-associated protein may have prolactin release inhibiting activiy
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-92/Product: progonadoliberin #status predicted <PGN>
F;24-33/Product: gonadoliberin #status experimental <MAT>
F;37-92/Product: gonadoliberin-associated protein #status predicted <GAP>
F;24/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimen
F;33/Modified site: amidated carboxyl end (Gly) (amide in mature form from following gly

Query Match 95.2%; Score 60; DB 1; Length 92;
Best Local Similarity 90.0%; Pred. No. 0.0023;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EHWSYGLRPG 10
:|||||||||
Db 24 QHWSYGLRPG 33

RESULT 7
RHRTG
gonadoliberin precursor - rat
N;Alternate names: gonadoliberin-associated protein (GAP); gonadotropin releasing hormon
N;Contains: gonadoliberin; prolactin release-inhibiting factor
C;Species: Rattus norvegicus (Norway rat)
C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 18-Jun-1999
C;Accession: A40147; B26173; A48410
R;Bond, C.T.; Hayflick, J.S.; Seeburg, P.H.; Adelman, J.P.
Mol. Endocrinol. 3, 1257-1262, 1989
A;Title: The rat gonadotropin-releasing hormone: SH locus: structure and hypothalamic ex
A;Reference number: A40147; MUID:89384661
A;Accession: A40147
A;Molecule type: DNA
A;Residues: 1-92 <BON>
A;Cross-references: GB:M31670; NID:g204447; PIDN:AAA41264.1; PID:g204448
R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H.
Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A;Title: Isolation of the gene and hypothalamic cDNA for the common precursor of gonadot
A;Reference number: A94090; MUID:86094338
A;Accession: B26173
A;Molecule type: mRNA
A;Residues: 1-92 <ADE>
A;Cross-references: GB:M12579; NID:g204445; PIDN:AAA41263.1; PID:g204446
R;Maier, C.C.; Marchetti, B.; LeBoeuf, R.D.; Blalock, J.E.
Cell. Mol. Neurobiol. 12, 447-454, 1992
A;Title: Thymocytes express a mRNA that is identical to hypothalamic luteinizing hormone
A;Reference number: A48410; MUID:93105480
A;Accession: A48410
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-92 <MAI>
A;Cross-references: GB:S50870; NID:g262059; PIDN:AAB24572.1; PID:g262060
A;Experimental source: thymus
A;Note: sequence extracted from NCBI backbone (NCBIN:121082, NCBIP:121083)
C;Genetics:
A;Introns: 47/3; 79/3
C;Function:
A;Description: stimulates pituitary secretion of lutropin and follitropin
A;Note: gonadoliberin-associated protein may have prolactin release inhibiting activi
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-92/Product: progonadoliberin #status predicted <PGN>
F;24-33/Product: gonadoliberin #status predicted <GLN>
F;37-92/Product: prolactin release-inhibiting factor #status predicted <PIF>
F;24/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predic
F;33/Modified site: amidated carboxyl end (Gly) (amide in mature form from following

Query Match 95.2%; Score 60; DB 1; Length 92;
Best Local Similarity 90.0%; Pred. No. 0.0023;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EHWSYGLRPG 10
:|||||||||
Db 24 QHWSYGLRPG 33

RESULT 8
RHAQ1
gonadoliberin I - American alligator
N;Alternate names: gonadotropin-releasing hormone I
C;Species: Alligator mississippiensis (American alligator)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 18-Mar-1997
C;Accession: A60066
R;Lovejoy, D.A.; Fischer, W.H.; Parker, D.B.; McRory, J.E.; Park, M.; Lance, V.; Swan
Regul. Pept. 33, 105-116, 1991
A;Title: Primary structure of two forms of gonadotropin-releasing hormone from brains
A;Reference number: A60066; MUID:91352338
A;Accession: A60066
A;Molecule type: protein
A;Residues: 1-10 <LOV>
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 88.9%; Score 56; DB 1; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.0011;
Matches 8; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EHWSYGLRPG 10
:||||||:||
Db 1 QHWSYGLQPG 10

RESULT 9
I50644
gonadoliberin I precursor - chicken
N;Alternate names: gonadotropin-releasing hormone I
C;Species: Gallus gallus (chicken)
C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 16-Jul-1999
C;Accession: I50644; S33507
R;Dunn, I.C.; Chen, Y.; Hook, C.; Sharp, P.J.; Sang, H.M.
J. Mol. Endocrinol. 11, 19-29, 1993
A;Title: Characterization of the chicken preprogonadotrophin-releasing hormone-I gene
A;Reference number: I50644; MUID:94059355
A;Accession: I50644
A;Status: translated from GB/EMBL/DDBJ

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A;Molecule type: DNA
A;Residues: 1-92 <DU2>
A;Cross-references: EMBL:X69491; NID:g496326; PIDN:CAA49246.1; PID:g311612
C;Genetics:
A;Introns: 47/3; 79/3
C;Superfamily: gonadoliberin


  Query Match             88.9%;  Score 56;  DB 2;  Length 92;
  Best Local Similarity   80.0%;  Pred. No. 0.011;
  Matches    8;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||||||:||
Db      24 QHWSYGLQPG 33


RESULT  10
I50739
gonadotropin-releasing hormone - Cichlid (Haplochromis burtoni)
C;Species: Haplochromis burtoni
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C;Accession: I50739
R;White, S.A.; Kasten, T.L.; Bond, C.T.; Adelman, J.P.; Fernald, R.D.
Proc. Natl. Acad. Sci. U.S.A. 92, 8363-8367, 1995
A;Title: Three gonadotropin-releasing hormone genes in one organism suggest novel roles
A;Reference number: I50739; MUID:95396797
A;Accession: I50739
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-98 <WHI>
A;Cross-references: EMBL:U31865; NID:g905398; PIDN:AAC59691.1; PID:g905399
C;Superfamily: gonadoliberin


  Query Match             85.7%;  Score 54;  DB 2;  Length 98;
  Best Local Similarity   80.0%;  Pred. No. 0.026;
  Matches    8;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||||| ||
Db      23 QHWSYGLSPG 32


RESULT  11
RHID1S
gonadoliberin I precursor - sharptooth catfish
N;Alternate names: gonadoliberin, catfish-type; gonadotropin-releasing hormone I (GnRH-I
N;Contains: gonadoliberin I; gonadoliberin I-associated protein form I; gonadoliberin I
C;Species: Clarias gariepinus (sharptooth catfish)
C;Date: 30-Sep-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
C;Accession: S45602; S45601; JC1242; S42936; S42937
R;Bogerd, J.; Zandbergen, T.; Andersson, E.; Goos, H.
Eur. J. Biochem. 222, 541-549, 1994
A;Title: Isolation, characterization and expression of cDNAs encoding the catfish-type
A;Reference number: S45600; MUID:94291651
A;Accession: S45602
A;Molecule type: mRNA
A;Residues: 1-80 <BOG1>
A;Cross-references: EMBL:X78049; NID:g459433; PIDN:CAA54971.1; PID:g459434
A;Note: gonadoliberin I-associated protein form I
A;Accession: S45601
A;Molecule type: mRNA
A;Residues: 1-46,'S',48-59,'G',61-80 <BOG2>
A;Cross-references: EMBL:X78048; NID:g459431; PIDN:CAA54970.1; PID:g459432
A;Note: gonadoliberin I-associated protein form II, presumed to be a polymorphic form
R;Bogerd, J.; Li, K.W.; Janssen-Dommerholt, C.; Goos, H.
Biochem. Biophys. Res. Commun. 187, 127-134, 1992
A;Title: Two gonadotropin-releasing hormones from African catfish (Clarias gariepinus).
A;Reference number: JC1242; MUID:92392313
A;Accession: JC1242
A;Molecule type: protein
A;Residues: 22-31 <BOG3>
A;Experimental source: brain
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-31/Product: gonadoliberin I #status experimental <MAT1>
F;35-80/Product: gonadoliberin I-associated protein #status predicted <MAT2>
F;22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experi
F;31/Modified site: amidated carboxyl end (Gly) (amide in mature form from following


  Query Match             79.4%;  Score 50;  DB 1;  Length 80;
  Best Local Similarity   70.0%;  Pred. No. 0.099;
  Matches    7;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||:|| ||
Db      22 QHWSHGLNPG 31


RESULT  12
JC7393
medaka-type gonadotropin-releasing hormone precursor - Japanese medaka
C;Species: Oryzias latipes (Japanese medaka)
C;Date: 17-Nov-2000 #sequence_revision 17-Nov-2000 #text_change 17-Nov-2000
C;Accession: JC7393
R;Okubo, K.; Amano, M.; Yoshiura, Y.; Suetake, H.; Aida, K.
Biochem. Biophys. Res. Commun. 276, 298-303, 2000
A;Title: A novel form of gonadotropin-releasing hormone in the medaka, Oryzias latipe
A;Reference number: JC7393
A;Contents: Brain
A;Accession: JC7393
A;Molecule type: mRNA
A;Residues: 1-91 <OKU>
A;Cross-references: DDBJ:AB041333
C;Comment: This protein plays the roles as a hypophysiotropic factor, and a physiolog
C;Genetics:
A;Gene: mdgnrh
C;Keywords: brain


  Query Match             79.4%;  Score 50;  DB 2;  Length 91;
  Best Local Similarity   70.0%;  Pred. No. 0.11;
  Matches    7;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||:|| ||
Db      22 QHWSFGLSPG 31


RESULT  13
A21114
gonadoliberin - chum salmon
C;Species: Oncorhynchus keta (chum salmon)
C;Date: 10-Aug-1990 #sequence_revision 10-Aug-1990 #text_change 18-Jun-1993
C;Accession: A21114
R;Sherwood, N.; Eiden, L.; Brownstein, M.; Spiess, J.; Rivier, J.; Vale, W.
Proc. Natl. Acad. Sci. U.S.A. 80, 2794-2798, 1983
A;Title: Characterization of a teleost gonadotropin-releasing hormone.
A;Reference number: A21114; MUID:83195140
A;Accession: A21114
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-10 <SHE>


  Query Match             74.6%;  Score 47;  DB 2;  Length 10;
  Best Local Similarity   70.0%;  Pred. No. 0.036;
  Matches    7;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||||  ||
Db       1 QHWSYGWLPG 10
```

RESULT 14
I51092
gonadotropin releasing hormone - chinook salmon (fragment)
C;Species: Oncorhynchus tschawytscha (chinook salmon)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Aug-1997
C;Accession: I51092
R;Klungland, H.; Lorens, J.B.; Andersen, O.; Kisen, G.O.; Alestrom, P.
Mol. Cell. Endocrinol. 84, 167-174, 1992
A;Title: The Atlantic salmon prepro-gonadotropin releasing hormone gene and mRNA.
A;Reference number: I51040; MUID:92267241
A;Accession: I51092
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-74 <KLU>
A;Cross-references: EMBL:X79711; NID:g499322; PID:g499323
C;Genetics:
A;Gene: GnRH
A;Introns: 38/3; 65/3

Query Match 74.6%; Score 47; DB 2; Length 74;
Best Local Similarity 70.0%; Pred. No. 0.29;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 EHWSYGLRPG 10
:||||| ||
Db 16 QHWSYGWLPG 25

RESULT 15
I51180
gonadotropin-releasing hormone - cherry salmon
C;Species: Oncorhynchus masou (cherry salmon)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Aug-1997
C;Accession: I51180
R;Suzuki, M.; Hyodo, S.; Kobayashi, M.; Aida, K.; Urano, A.
J. Mol. Endocrinol. 9, 73-82, 1992
A;Title: Characterization and localization of mRNA encoding the salmon-type gonadotrophi
A;Reference number: I51180; MUID:92384893
A;Accession: I51180
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-82 <SUZ>
A;Cross-references: GB:S44614; NID:g254824; PID:g254825

Query Match 74.6%; Score 47; DB 2; Length 82;
Best Local Similarity 70.0%; Pred. No. 0.33;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 EHWSYGLRPG 10
:||||| ||
Db 24 QHWSYGWLPG 33

Search completed: March 13, 2002, 08:47:08
Job time: 76 sec

GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 08:50:26 ; Search time 74.71 Seconds
(without alignments)
4.908 Million cell updates/sec

Title: US-09-462-089-1
Perfect score: 63
Sequence: 1 EHWSYGLRPG 10

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 100059 seqs, 36664827 residues

Total number of hits satisfying chosen parameters: 100059

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_39:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID		Description
1	60	95.2	61	1	GON1_SHEEP	Q28588	ovis aries
2	60	95.2	63	1	GON1_MESAU	O09163	mesocricetu
3	60	95.2	67	1	GON1_MACMU	P55247	macaca mula
4	60	95.2	89	1	GON1_XENLA	P45656	xenopus lae
5	60	95.2	90	1	GON1_MOUSE	P13562	mus musculu
6	60	95.2	91	1	GON1_PIG	P49921	sus scrofa
7	60	95.2	92	1	GON1_HUMAN	P01148	homo sapien
8	60	95.2	92	1	GON1_RAT	P07490	rattus norv
9	60	95.2	92	1	GON1_TUPGB	Q95335	tupaia glis
10	56	88.9	10	1	GON1_ALLMI	P37041	alligator m
11	56	88.9	92	1	GON1_CHICK	P37042	gallus gall
12	54	85.7	94	1	GON1_HAPBU	P51918	haplochromi
13	54	85.7	95	1	GON1_MORSA	O73812	morone saxa
14	54	85.7	95	1	GON1_PAGMA	P70074	pagrus majo
15	54	85.7	95	1	GON1_SPAAU	P51919	sparus aura
16	54	85.7	99	1	GON1_DICLA	Q9ia10	dicentrarch
17	51	81.0	92	1	GON1_CAVPO	O54713	cavia porce
18	50	79.4	80	1	GON1_CLAGA	P33439	clarias gar
19	49	77.8	10	1	GON1_CLUPA	P81749	clupea pall
20	47	74.6	10	1	GON3_ONCKE	P20367	oncorhynchu
21	47	74.6	74	1	GON3_ONCMY	P55246	oncorhynchu
22	47	74.6	74	1	GON3_ONCTS	Q92097	oncorhynchu
23	47	74.6	82	1	GON3_ONCMA	P30973	oncorhynchu
24	47	74.6	82	1	GON3_SALSA	P35629	salmo salar
25	47	74.6	82	1	GON3_SALTR	P45653	salmo trutt
26	47	74.6	89	1	GON3_PORNO	P51922	porichthys
27	47	74.6	90	1	GON3_DICLA	Q9ia09	dicentrarch
28	47	74.6	90	1	GON3_HAPBU	P45652	haplochromi
29	47	74.6	90	1	GON3_PAGMA	P51921	pagrus majo
30	47	74.6	90	1	GON3_SPAAU	P51923	sparus aura
31	47	74.6	94	1	GON3_CARAU	P51917	carassius a
32	47	74.6	94	1	GON3_RUTRU	Q92106	rutilus rut
33	42	66.7	10	1	GON2_CHICK	P37043	gallus gall
34	42	66.7	10	1	GONL_SQUAC	P27429	squalus aca
35	42	66.7	85	1	GON2_DICLA	Q91a08	dicentrarch
36	42	66.7	85	1	GON2_HAPBU	P37044	haplochromi
37	42	66.7	85	1	GON2_MORSA	O73811	morone saxa
38	42	66.7	85	1	GON2_SPAAU	P51925	sparus aura
39	42	66.7	86	1	GON2_CARAU	P51924	carassius a
40	42	66.7	86	1	GON2_CLAGA	P43306	clarias gar
41	42	66.7	86	1	GON2_ONCMY	O42241	oncorhynchu
42	42	66.7	86	1	GON2_RUTRU	Q91330	rutilus rut
43	42	66.7	110	1	GON2_SUNMU	O97686	suncus muri
44	42	66.7	114	1	GON2_TUPGB	Q95336	tupaia glis
45	42	66.7	120	1	GON2_HUMAN	O43555	homo sapien

ALIGNMENTS

RESULT 1
GON1_SHEEP
ID GON1_SHEEP STANDARD; PRT; 61 AA.
AC Q28588;
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I]
DE (FRAGMENT).
GN GNRH1 OR GNRH OR LHRH.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
RP SEQUENCE OF 12-61 FROM N.A.
RC STRAIN=WESTERN RANGE; TISSUE=Hypothalamus;
RA Rodriguez R.E., Wise M.E.;
RL Submitted (OCT-1993) to the EMBL/GenBank/DDBJ databases.
RN [2]
RP SEQUENCE OF 1-10.
RX MEDLINE=72094314; PubMed=4550508;
RA Burgus R., Butcher M., Amoss M., Ling N., Monahan M., Rivier J.,
RA Fellows R., Blackwell R., Vale W., Guillemin R.;
RT "Primary structure of the ovine hypothalamic luteinizing hormone-
RT releasing factor (LRF) (LH-hypothalamus-LRF-gas chromatography-mass
RT spectrometry-decapeptide-Edman degradation).";
RL Proc. Natl. Acad. Sci. U.S.A. 69:278-282(1972).
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC HORMONES.
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC ---

CC ---
DR EMBL; U02517; AAA03433.1; -.
DR PIR; A93780; RHSHG.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Placenta.
FT NON_TER 1 1
FT CHAIN 1 >61 PROGONADOLIBERIN I.
FT PEPTIDE 1 10 GONADOLIBERIN I.
FT PEPTIDE 14 >61 GNRH-ASSOCIATED PEPTIDE I.
FT ACT_SITE 3 3 APPEARS TO BE ESSENTIAL FOR BIOLOGICAL

```
FT                                ACTIVITY.
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      10     10       AMIDATION (G-11 PROVIDE AMIDE GROUP).
FT   NON_TER      61     61
SQ   SEQUENCE   61 AA;  6828 MW;  63962A1AE319B8F0 CRC64;


  Query Match             95.2%;  Score 60;  DB 1;  Length 61;
  Best Local Similarity   90.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||||||
Db      1 QHWSYGLRPG 10


RESULT   2
GON1_MESAU
ID   GON1_MESAU     STANDARD;      PRT;    63 AA.
AC   O09163;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I]
DE   (FRAGMENT).
GN   GNRH1 OR GNRH OR LHRH.
OS   Mesocricetus auratus (Golden hamster).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC   Mesocricetus.
OX   NCBI_TaxID=10036;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Jansen H.T., Stevens P.J., Zeitler P., Lehman M.N.;
RL   Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ----------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; U91938; AAB51302.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta.
FT   NON_TER       1      1
FT   CHAIN         1    >63       PROGONADOLIBERIN I.
FT   PEPTIDE       1     10       GONADOLIBERIN I.
FT   PEPTIDE      14    >63       GNRH-ASSOCIATED PEPTIDE I (BY
FT                                SIMILARITY).
FT   ACT_SITE      3      3       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY (BY SIMILARITY).
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      10     10       AMIDATION (G-11 PROVIDE AMIDE GROUP) (BY
FT                                SIMILARITY).
FT   NON_TER      63     63
SQ   SEQUENCE   63 AA;  7370 MW;  FC94995676F77180 CRC64;


  Query Match             95.2%;  Score 60;  DB 1;  Length 63;
  Best Local Similarity   90.0%;  Pred. No. 0.00036;
  Matches    9;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||||||
Db      1 QHWSYGLRPG 10


RESULT   3
GON1_MACMU
ID   GON1_MACMU     STANDARD;      PRT;    67 AA.
AC   P55247;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I]
DE   (FRAGMENT).
GN   GNRH1 OR GNRH OR LHRH.
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
OC   Cercopithecinae; Macaca.
OX   NCBI_TaxID=9544;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Hypothalamus;
RX   MEDLINE=95124501; PubMed=7545971;
RA   Ma Y.J., Costa M.E., Ojeda S.R.;
RT   "Developmental expression of the genes encoding transforming growth
RT   factor alpha and its receptor in the hypothalamus of female rhesus
RT   macaques.";
RL   Neuroendocrinology 60:346-359(1994).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ----------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; S75918; AAB33096.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1      5       BY SIMILARITY.
FT   CHAIN         6    >67       PROGONADOLIBERIN I.
FT   PEPTIDE       6     15       GONADOLIBERIN I.
FT   PEPTIDE      19    >67       GNRH-ASSOCIATED PEPTIDE I.
FT   ACT_SITE      8      8       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY (BY SIMILARITY).
FT   MOD_RES       6      6       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      15     15       AMIDATION (G-16 PROVIDE AMIDE GROUP) (BY
FT                                SIMILARITY).
FT   NON_TER      67     67
SQ   SEQUENCE   67 AA;  7573 MW;  505394DAA261A3F2 CRC64;


  Query Match             95.2%;  Score 60;  DB 1;  Length 67;
  Best Local Similarity   90.0%;  Pred. No. 0.00039;
  Matches    9;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||||||
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```
Db      6 QHWSYGLRPG 15


RESULT   4
GON1_XENLA
ID   GON1_XENLA     STANDARD;      PRT;    89 AA.
AC   P45656;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH) (LULIBERIN I).
OS   Xenopus laevis (African clawed frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
OC   Xenopodinae; Xenopus.
OX   NCBI_TaxID=8355;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Forebrain;
RX   MEDLINE=94185563; PubMed=8137750;
RA   Hayes W.P., Wray S., Battey J.F.;
RT   "The frog gonadotropin-releasing hormone-I (GnRH-I) gene has a
RT   mammalian-like expression pattern and conserved domains in
RT   GnRH-associated peptide, but brain onset is delayed until
RT   metamorphosis.";
RL   Endocrinology 134:1835-1844(1994).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; L28040; AAA49728.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal.
FT   SIGNAL        1     23
FT   CHAIN        24     89       PROGONADOLIBERIN I.
FT   PEPTIDE      24     33       GONADOLIBERIN I.
FT   CHAIN        37     89       GONADOTROPIN-RELEASING HORMONE ASSOCIATED
FT                                PEPTIDE.
FT   PEPTIDE      37     85       GNRH-ASSOCIATED PEPTIDE I (GAP).
FT   MOD_RES      24     24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   89 AA;  10246 MW;  6F4F36FBAE0D4284 CRC64;


  Query Match             95.2%;  Score 60;  DB 1;  Length 89;
  Best Local Similarity   90.0%;  Pred. No. 0.00051;
  Matches    9;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||||||
Db     24 QHWSYGLRPG 33


RESULT   5
GON1_MOUSE
ID   GON1_MOUSE     STANDARD;      PRT;    90 AA.
AC   P13562;
DT   01-JAN-1990 (Rel. 13, Created)
DT   01-JAN-1990 (Rel. 13, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); PROLACTIN RELEASE-INHIBITING FACTOR
DE   I].
GN   GNRH1 OR GNRH.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=87069928; PubMed=3024317;
RA   Mason A.J., Hayflick J.S., Zoeller R.T., Young W.S. III,
RA   Phillips H.S., Nikolics K., Seeburg P.H.;
RT   "A deletion truncating the gonadotropin-releasing hormone gene is
RT   responsible for hypogonadism in the hpg mouse.";
RL   Science 234:1366-1371(1986).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; M14872; AAA37717.1; -.
DR   MGD; MGI:95789; Gnrh.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Signal.
FT   SIGNAL        1     21
FT   CHAIN        22     90       PROGONADOLIBERIN I.
FT   PEPTIDE      22     31       GONADOLIBERIN I.
FT   PEPTIDE      35     90       PROLACTIN RELEASE-INHIBITING FACTOR I.
FT   ACT_SITE     24     24       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY.
FT   MOD_RES      22     22       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      31     31       AMIDATION (G-32 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   90 AA;  10337 MW;  1C0766FA4826E4D9 CRC64;


  Query Match             95.2%;  Score 60;  DB 1;  Length 90;
  Best Local Similarity   90.0%;  Pred. No. 0.00052;
  Matches    9;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||||||
Db     22 QHWSYGLRPG 31


RESULT   6
GON1_PIG
ID   GON1_PIG       STANDARD;      PRT;    91 AA.
AC   P49921;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
GN   GNRH1 OR GNRH.
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Hypothalamus;
```

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RA   Weesner G.D., Matteri R.L., Becker B.A.;
RL   Submitted (MAY-1994) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE OF 24-33.
RX   MEDLINE=72114303; PubMed=4946067;
RA   Baba Y., Matsuo H., Schally A.V.;
RT   "Structure of the porcine LH- and FSH-releasing hormone. II.
RT   Confirmation of the proposed structure by conventional sequential
RT   analyses.";
RL   Biochem. Biophys. Res. Commun. 44:459-463(1971).
RN   [3]
RP   SYNTHESIS OF GONADOLIBERIN.
RX   MEDLINE=72065376; PubMed=4942726;
RA   Matsuo H., Arimura A., Nair R.M.G., Schally A.V.;
RT   "Synthesis of the porcine LH- and FSH-releasing hormone by the solid-
RT   phase method.";
RL   Biochem. Biophys. Res. Commun. 45:822-827(1971).
RN   [4]
RP   SYNTHESIS OF GONADOLIBERIN.
RX   MEDLINE=72117544; PubMed=4946275;
RA   Baba Y., Arimura A., Schally A.V.;
RT   "On the tryptophan residue in porcine LH and FSH-releasing hormone.";
RL   Biochem. Biophys. Res. Commun. 45:483-487(1971).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; L32864; AAA31066.1; -.
DR   PIR; A01411; RHPGG.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Signal.
FT   SIGNAL       1     23
FT   CHAIN       24     91       PROGONADOLIBERIN I.
FT   PEPTIDE     24     33       GONADOLIBERIN I.
FT   PEPTIDE     34     91       GNRH-ASSOCIATED PEPTIDE I.
FT   ACT_SITE    26     26       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                               ACTIVITY.
FT   MOD_RES     24     24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES     33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   91 AA;  10090 MW;  8340474F32DDAA99 CRC64;


  Query Match             95.2%;  Score 60;  DB 1;  Length 91;
  Best Local Similarity   90.0%;  Pred. No. 0.00052;
  Matches    9;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||||||||
Db      24 QHWSYGLRPG 33


RESULT   7
GON1_HUMAN
ID   GON1_HUMAN     STANDARD;      PRT;     92 AA.
AC   P01148;
DT   21-JUL-1986 (Rel. 01, Created)
DT   01-APR-1988 (Rel. 07, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I) (GONADORELIN); GNRH-ASSOCIATED
DE   PEPTIDE I].
GN   GNRH1 OR GNRH OR LHRH.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89366682; PubMed=2671939;
RA   Hayflick J.S., Adelman J.P., Seeburg P.H.;
RT   "The complete nucleotide sequence of the human gonadotropin-releasing
RT   hormone gene.";
RL   Nucleic Acids Res. 17:6403-6403(1989).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86094338; PubMed=2867548;
RA   Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.;
RT   "Isolation of the gene and hypothalamic cDNA for the common precursor
RT   of gonadotropin-releasing hormone and prolactin release-inhibiting
RT   factor in human and rat.";
RL   Proc. Natl. Acad. Sci. U.S.A. 83:179-183(1986).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=85012739; PubMed=6090951;
RA   Seeburg P.H., Adelman J.P.;
RT   "Characterization of cDNA for precursor of human luteinizing hormone
RT   releasing hormone.";
RL   Nature 311:666-668(1984).
RN   [4]
RP   SEQUENCE OF 24-33.
RX   MEDLINE=83126573; PubMed=6760865;
RA   Tan L., Rousseau P.;
RT   "The chemical identity of the immunoreactive LHRH-like peptide
RT   biosynthesized in the human placenta.";
RL   Biochem. Biophys. Res. Commun. 109:1061-1071(1982).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- PHARMACEUTICAL: AVAILABLE UNDER THE NAMES FACTREL (AYERST LABS),
CC       LUTREPULSE OR LUTRELEF (FERRING PHARMACEUTICALS) AND RELISORM
CC       (SERONO).
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X01059; CAA25526.1; -.
DR   EMBL; M12578; AAA35916.1; -.
DR   EMBL; X15215; CAA33285.1; -.
DR   PIR; A01410; RHHUG.
DR   PIR; A26173; A26173.
DR   PIR; S05308; S05308.
DR   MIM; 152760; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Pharmaceutical; Signal.
FT   SIGNAL       1     23
FT   CHAIN       24     92       PROGONADOLIBERIN I.
FT   PEPTIDE     24     33       GONADOLIBERIN I.
FT   PEPTIDE     37     92       GNRH-ASSOCIATED PEPTIDE I.
FT   ACT_SITE    26     26       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                               ACTIVITY.
FT   MOD_RES     24     24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES     33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
FT   CONFLICT    16     16       W -> S (IN REF. 3).
SQ   SEQUENCE   92 AA;  10380 MW;  30A72221B076FA79 CRC64;
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  Query Match             95.2%;  Score 60;  DB 1;  Length 92;
  Best Local Similarity   90.0%;  Pred. No. 0.00053;
  Matches    9;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||||||||
Db      24 QHWSYGLRPG 33


RESULT   8
GON1_RAT
ID   GON1_RAT       STANDARD;      PRT;    92 AA.
AC   P07490;
DT   01-APR-1988 (Rel. 07, Created)
DT   01-APR-1988 (Rel. 07, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); PROLACTIN RELEASE-INHIBITING FACTOR
DE   I].
GN   GNRH1 OR GNRH.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86094338; PubMed=2867548;
RA   Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.;
RT   "Isolation of the gene and hypothalamic cDNA for the common precursor
RT   of gonadotropin-releasing hormone and prolactin release-inhibiting
RT   factor in human and rat.";
RL   Proc. Natl. Acad. Sci. U.S.A. 83:179-183(1986).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89384661; PubMed=2476669;
RA   Bond C.T., Hayflick J.S., Seeburg P.H., Adelman J.P.;
RT   "The rat gonadotropin-releasing hormone: SH locus: structure and
RT   hypothalamic expression.";
RL   Mol. Endocrinol. 3:1257-1262(1989).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Thymus;
RX   MEDLINE=93105480; PubMed=1468115;
RA   Maier C.C., Marchetti B., Leboeuf R.D., Blalock J.E.;
RT   "Thymocytes express a mRNA that is identical to hypothalamic
RT   luteinizing hormone-releasing hormone mRNA.";
RL   Cell. Mol. Neurobiol. 12:447-454(1992).
RN   [4]
RP   SEQUENCE OF 1-47 FROM N.A.
RC   TISSUE=Heart;
RX   MEDLINE=87149087; PubMed=3547652;
RA   Adelman J.P., Bond C.T., Douglass J., Herbert E.;
RT   "Two mammalian genes transcribed from opposite strands of the same
RT   DNA locus.";
RL   Science 235:1514-1517(1987).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- TISSUE SPECIFICITY: CENTRAL NERVOUS SYSTEM.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; S50870; AAB24572.1; -.
DR   EMBL; M12579; AAA41263.1; -.
DR   EMBL; M31670; AAA41264.1; -.
DR   EMBL; M15527; AAA42141.1; ALT_SEQ.
DR   EMBL; M15529; AAA42139.1; -.
DR   EMBL; M15528; -; NOT_ANNOTATED_CDS.
DR   PIR; B26173; RHRTG.
DR   PIR; A48410; A48410.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Signal.
FT   SIGNAL        1     23
FT   CHAIN        24     92       PROGONADOLIBERIN I.
FT   PEPTIDE      24     33       GONADOLIBERIN I.
FT   PEPTIDE      37     92       PROLACTIN RELEASE-INHIBITING FACTOR I.
FT   ACT_SITE     26     26       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY.
FT   MOD_RES      24     24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   92 AA;  10500 MW;  494B5C64DA8A3EB3 CRC64;


  Query Match             95.2%;  Score 60;  DB 1;  Length 92;
  Best Local Similarity   90.0%;  Pred. No. 0.00053;
  Matches    9;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||||||||
Db      24 QHWSYGLRPG 33


RESULT   9
GON1_TUPGB
ID   GON1_TUPGB     STANDARD;      PRT;    92 AA.
AC   Q95335;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
GN   GNRH1 OR GNRH.
OS   Tupaia glis belangeri (Common tree shrew).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Scandentia; Tupaiidae; Tupaia.
OX   NCBI_TaxID=9396;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Hypothalamus;
RX   MEDLINE=97079639; PubMed=8921350;
RA   Kasten T.L., White S.A., Norton T.T., Bond C.T., Adelman J.P.,
RA   Fernald R.D.;
RT   "Characterization of two new preproGnRH mRNAs in the tree shrew:
RT   first direct evidence for mesencephalic GnRH gene expression in a
RT   placental mammal.";
RL   Gen. Comp. Endocrinol. 104:7-19(1996).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U63326; AAB16837.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
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DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Signal.
FT   SIGNAL        1     23       BY SIMILARITY.
FT   CHAIN        24     92       PROGONADOLIBERIN I.
FT   PEPTIDE      24     33       GONADOLIBERIN I.
FT   PEPTIDE      37     92       GNRH-ASSOCIATED PEPTIDE I.
FT   ACT_SITE     26     26       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY.
FT   MOD_RES      24     24       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP) (BY
FT                                SIMILARITY).
SQ   SEQUENCE   92 AA;  10197 MW;  4FDBF2C58CF5F63B CRC64;


  Query Match             95.2%;  Score 60;  DB 1;  Length 92;
  Best Local Similarity   90.0%;  Pred. No. 0.00053;
  Matches    9;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||||||
Db     24 QHWSYGLRPG 33


RESULT  10
GON1_ALLMI
ID   GON1_ALLMI     STANDARD;      PRT;     10 AA.
AC   P37041; P20407;
DT   01-FEB-1991 (Rel. 17, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   15-DEC-1998 (Rel. 37, Last annotation update)
DE   GONADOLIBERIN I (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I) (LH-RH I)
DE   (LULIBERIN I).
OS   Alligator mississippiensis (American alligator).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Crocodylidae; Alligatorinae; Alligator.
OX   NCBI_TaxID=8496;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Brain;
RX   MEDLINE=91352338; PubMed=1882082;
RA   Lovejoy D.A., Fischer W.H., Parker D.B., McRory J.E., Park M.,
RA   Lance V., Swanson P., Rivier J.E., Sherwood N.M.;
RT   "Primary structure of two forms of gonadotropin-releasing hormone
RT   from brains of the American alligator (Alligator mississippiensis).";
RL   Regul. Pept. 33:105-116(1991).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR   PIR; A60066; RHAQ1.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Hormone; Amidation; Hypothalamus.
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      10     10       AMIDATION.
SQ   SEQUENCE   10 AA;  1172 MW;  284B23D7286B45A3 CRC64;


  Query Match             88.9%;  Score 56;  DB 1;  Length 10;
  Best Local Similarity   80.0%;  Pred. No. 0.0003;
  Matches    8;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||||:||
Db      1 QHWSYGLQPG 10


RESULT  11
GON1_CHICK
ID   GON1_CHICK     STANDARD;      PRT;     92 AA.
AC   P37042; P20407;
DT   01-FEB-1991 (Rel. 17, Created)
DT   01-JUN-1994 (Rel. 29, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=WHITE LEGHORN;
RX   MEDLINE=94059355; PubMed=7902095;
RA   Dunn I.C., Chen Y., Hook C., Sharp P.J., Sang H.M.;
RT   "Characterization of the chicken preprogonadotrophin-releasing
RT   hormone-I gene.";
RL   J. Mol. Endocrinol. 11:19-29(1993).
RN   [2]
RP   SEQUENCE OF 24-33.
RC   TISSUE=Hypothalamus;
RX   MEDLINE=82265778; PubMed=7050119;
RA   King J.A., Millar R.P.;
RT   "Structure of chicken hypothalamic luteinizing hormone-releasing
RT   hormone. II. Isolation and characterization.";
RL   J. Biol. Chem. 257:10729-10732(1982).
RN   [3]
RP   SEQUENCE OF 24-33.
RC   TISSUE=Hypothalamus;
RA   King J.A., Millar R.P.;
RT   "Structure of avian hypothalamic gonadotrophin-releasing hormone.";
RL   S. Afr. J. Sci. 78:124-125(1982).
RN   [4]
RP   SYNTHESIS OF 24-33.
RX   MEDLINE=82265777; PubMed=7050118;
RA   King J.A., Millar R.P.;
RT   "Structure of chicken hypothalamic luteinizing hormone-releasing
RT   hormone. I. Structural determination on partially purified
RT   material.";
RL   J. Biol. Chem. 257:10722-10728(1982).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ----------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; X69491; CAA49246.1; -.
DR   PIR; S33507; S33507.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal.
FT   SIGNAL        1     23
FT   CHAIN        24     92       PROGONADOLIBERIN I.
FT   PEPTIDE      24     33       GONADOLIBERIN I.
FT   PEPTIDE      37     92       GNRH-ASSOCIATED PEPTIDE I.
FT   MOD_RES      24     24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   92 AA;  10206 MW;  61AEB7EBAF508B6A CRC64;


  Query Match             88.9%;  Score 56;  DB 1;  Length 92;
  Best Local Similarity   80.0%;  Pred. No. 0.0027;
  Matches    8;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
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Db      24 QHWSYGLQPG 33


RESULT  12
GON1_HAPBU
ID   GON1_HAPBU     STANDARD;      PRT;    94 AA.
AC   P51918; O93387;
DT   01-OCT-1996 (Rel. 34, Created)
DT   30-MAY-2000 (Rel. 39, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH I) (LULIBERIN I).
GN   GNRH1.
OS   Haplochromis burtoni (Burton's mouthbrooder).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidei;
OC   Cichlidae; Astatotilapia.
OX   NCBI_TaxID=8153;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95396797; PubMed=7667296;
RA   White S.A., Kasten T.L., Bond C.T., Adelman J.P., Fernald R.D.;
RT   "Three gonadotropin-releasing hormone genes in one organism suggest
RT   novel roles for an ancient peptide.";
RL   Proc. Natl. Acad. Sci. U.S.A. 92:8363-8367(1995).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99061842; PubMed=9843638;
RA   White R.B., Fernald R.D.;
RT   "Ontogeny of gonadotropin-releasing hormone (GnRH) gene expression
RT   reveals a distinct origin for GnRH-containing neurons in the
RT   midbrain.";
RL   Gen. Comp. Endocrinol. 112:322-329(1998).
RN   [3]
RP   SEQUENCE OF 23-32.
RC   TISSUE=Pituitary;
RX   MEDLINE=95372591; PubMed=7644702;
RA   Powell J.F.F., Fischer W.H., Park M., Craig A.G., Rivier J.E.,
RA   White S.A., Francis R.C., Fernald R.D., Licht P., Warby C.,
RA   Sherwood N.M.;
RT   "Primary structure of solitary form of gonadotropin-releasing hormone
RT   (GnRH) in cichlid pituitary; three forms of GnRH in brain of cichlid
RT   and pumpkinseed fish.";
RL   Regul. Pept. 57:43-53(1995).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS. MAY BE
CC       RESPONSIBLE FOR THE REGULATION OF THE HYPOTHALAMIC-PITUITARY-
CC       GONADAL AXIS.
CC   -!- TISSUE SPECIFICITY: SYNTHESIZED IN PREOPTIC NEURONS AND IS
CC       TRANSPORTED TO THE PITUITARY IN THE PREOPTIC-HYPOPHYSEAL AXONS.
CC   -!- MASS SPECTROMETRY: MW=1113.9; METHOD=MALDI; RANGE=23-32.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U31865; AAC59691.1; -.
DR   EMBL; AF076961; AAC27716.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal; Multigene family.
FT   SIGNAL       1     22
FT   CHAIN       23     94       PROGONADOLIBERIN I.
FT   PEPTIDE     23     32       GONADOLIBERIN I.
FT   PEPTIDE     36     94       GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT   MOD_RES     23     23       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES     32     32       AMIDATION (G-33 PROVIDE AMIDE GROUP).
FT   CONFLICT    86     94       ENGHRTFKK -> KMDTGHSRNERFL (IN REF. 1).
SQ   SEQUENCE   94 AA;  10382 MW;  E57DBA83333278D7 CRC64;


  Query Match             85.7%;  Score 54;  DB 1;  Length 94;
  Best Local Similarity   80.0%;  Pred. No. 0.0062;
  Matches    8;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||| ||
Db     23 QHWSYGLSPG 32


RESULT  13
GON1_MORSA
ID   GON1_MORSA     STANDARD;      PRT;    95 AA.
AC   O73812;
DT   20-AUG-2001 (Rel. 40, Created)
DT   20-AUG-2001 (Rel. 40, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH I) (LULIBERIN I).
GN   GNRH1.
OS   Morone saxatilis (Striped bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=34816;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Chow M.M., Kight K.E., Gothilf Y., Alok D., Zohar Y.;
RT   "Multiple GnRHs present in a teleost species are encoded by separate
RT   genes: analysis of the sbGnRH and cGnRH-II genes from the striped
RT   bass, Morone saxatilis.";
RL   Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AF056314; AAD03817.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal; Multigene family.
FT   SIGNAL       1     22       POTENTIAL.
FT   CHAIN       23     95       PROGONADOLIBERIN I.
FT   PEPTIDE     23     32       GONADOLIBERIN I.
FT   PEPTIDE     36     95       GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT   MOD_RES     23     23       PYRROLIDONE CARBOXYLIC ACID (BY
FT                               SIMILARITY).
FT   MOD_RES     32     32       AMIDATION (G-33 PROVIDE AMIDE GROUP)
FT                               (BY SIMILARITY).
SQ   SEQUENCE   95 AA;  10411 MW;  980C6988FC279BFC CRC64;


  Query Match             85.7%;  Score 54;  DB 1;  Length 95;
  Best Local Similarity   80.0%;  Pred. No. 0.0063;
  Matches    8;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||| ||
Db     23 QHWSYGLSPG 32
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RESULT  14
GON1_PAGMA
ID   GON1_PAGMA     STANDARD;      PRT;    95 AA.
AC   P70074;
DT   15-JUL-1998 (Rel. 36, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH I) (LULIBERIN I).
GN   GNRH1.
OS   Pagrus major (Red sea bream) (Chrysophrys major).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Pagrus.
OX   NCBI_TaxID=143350;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Brain;
RA   Okuzawa K., Granneman J., Bogerd J., Goos H., Zohar Y., Kagawa H.;
RL   Submitted (SEP-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; D86582; BAA13129.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal; Multigene family.
FT   SIGNAL       1     23       POTENTIAL.
FT   CHAIN       24     95       PROGONADOLIBERIN I.
FT   PEPTIDE     24     33       GONADOLIBERIN I.
FT   PEPTIDE     37     95       GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT   MOD_RES     24     24       PYRROLIDONE CARBOXYLIC ACID (BY
FT                               SIMILARITY).
FT   MOD_RES     33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP)
FT                               (BY SIMILARITY).
SQ   SEQUENCE   95 AA;  10566 MW;  61E79C990328D73E CRC64;

  Query Match             85.7%;  Score 54;  DB 1;  Length 95;
  Best Local Similarity   80.0%;  Pred. No. 0.0063;
  Matches    8;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||||| ||
Db      24 QHWSYGLSPG 33


RESULT  15
GON1_SPAAU
ID   GON1_SPAAU     STANDARD;      PRT;    95 AA.
AC   P51919;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH I) (LULIBERIN I) (SBGNRH).
GN   GNRH1.
OS   Sparus aurata (Gilthead sea bream).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Sparus.
OX   NCBI_TaxID=8175;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Brain;
RX   MEDLINE=95268499; PubMed=7749463;
RA   Gothilf Y., Elizur A., Chow M., Chen T.T., Zohar Y.;
RT   "Molecular cloning and characterization of a novel gonadotropin-
RT   releasing hormone from the gilthead seabream (Sparus aurata).";
RL   Mol. Mar. Biol. Biotechnol. 4:27-35(1995).
RN   [2]
RP   SEQUENCE OF 26-35.
RC   TISSUE=Brain;
RX   MEDLINE=95083645; PubMed=7991588;
RA   Powell J.F.F., Zohar Y., Elizur A., Park M., Fischer W.H.,
RA   Craig A.G., Rivier J.E., Lovejoy D.A., Sherwood N.M.;
RT   "Three forms of gonadotropin-releasing hormone characterized from
RT   brains of one species.";
RL   Proc. Natl. Acad. Sci. U.S.A. 91:12081-12085(1994).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- MASS SPECTROMETRY: MW=1113.6; METHOD=MALDI; RANGE=26-35.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U30320; AAA75469.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal; Multigene family.
FT   SIGNAL       1     25
FT   CHAIN       26     95       PROGONADOLIBERIN I.
FT   PEPTIDE     26     35       GONADOLIBERIN I.
FT   PEPTIDE     39     95       GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT   MOD_RES     26     26       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES     35     35       AMIDATION (G-36 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   95 AA;  10753 MW;  49313FD6FD6B87DA CRC64;


  Query Match             85.7%;  Score 54;  DB 1;  Length 95;
  Best Local Similarity   80.0%;  Pred. No. 0.0063;
  Matches    8;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||||| ||
Db      26 QHWSYGLSPG 35


Search completed: March 13, 2002, 09:05:41
Job time: 915 sec
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GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 08:48:16 ; Search time 161.29 Seconds
(without alignments)
9.069 Million cell updates/sec

Title: US-09-462-089-1
Perfect score: 63
Sequence: 1 EHWSYGLRPG 10

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 473505 seqs, 146272329 residues

Total number of hits satisfying chosen parameters: 473505

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_17:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	60	95.2	91	13	Q9PRH0	Q9prh0 anguilla ja
2	54	85.7	87	13	Q9YI26	Q9yi26 sparus aura
3	54	85.7	95	13	O73812	O73812 morone saxa
4	54	85.7	99	13	Q9IA10	Q9ia10 dicentrarch
5	52	82.5	90	13	Q9IAU2	Q9iau2 rana dybows
6	50	79.4	91	13	Q9DGC8	Q9dgc8 oryzias lat
7	47	74.6	33	13	Q9W7G0	Q9w7g0 oncorhynchu
8	47	74.6	33	13	Q9PT34	Q9pt34 oncorhynchu
9	47	74.6	82	13	Q92094	Q92094 oncorhynchu
10	47	74.6	82	13	Q9W7G1	Q9w7g1 oncorhynchu
11	47	74.6	82	13	Q9I8Q0	Q9i8q0 oncorhynchu
12	47	74.6	82	13	Q9I8P9	Q9i8p9 oncorhynchu
13	47	74.6	88	13	Q9PSY9	Q9psy9 sparus aura
14	47	74.6	90	13	Q9IA09	Q9ia09 dicentrarch
15	47	74.6	90	13	Q9DD49	Q9dd49 oryzias lat
16	47	74.6	94	13	Q9DEH6	Q9deh6 carassius a
17	47	74.6	94	13	Q9DEH5	Q9deh5 carassius a
18	47	74.6	94	13	Q9DDD8	Q9ddd8 brachydanio
19	42	66.7	75	6	Q9TTV0	Q9ttv0 trichosurus
20	42	66.7	80	13	Q9DGC9	Q9dgc9 oryzias lat
21	42	66.7	85	13	O73811	O73811 morone saxa
22	42	66.7	85	13	Q9IA08	Q9ia08 dicentrarch
23	42	66.7	86	13	O42471	O42471 carassius a
24	42	66.7	86	13	Q9PW69	Q9pw69 typhlonecte
25	42	66.7	86	13	Q9PT25	Q9pt25 oncorhynchu
26	42	66.7	87	13	Q9PRI3	Q9pri3 anguilla ja
27	42	66.7	93	13	Q9DG36	Q9dg36 rana catesb
28	42	66.7	107	6	Q9TSI3	Q9tsi3 macaca mula
29	42	66.7	112	4	Q9BYP0	Q9byp0 homo sapien
30	42	66.7	113	4	Q9BYN9	Q9byn9 homo sapien
31	42	66.7	114	6	O97655	O97655 macaca mula
32	42	66.7	686	4	Q9H6R3	Q9h6r3 homo sapien
33	42	66.7	828	10	Q9SZR5	Q9szr5 arabidopsis
34	41	65.1	315	5	P91045	P91045 caenorhabdi
35	41	65.1	316	11	O08782	O08782 cricetulus
36	41	65.1	316	11	Q99JN4	Q99jn4 mus musculu
37	41	65.1	532	5	O44866	O44866 caenorhabdi
38	40	63.5	205	10	Q9AWR9	Q9awr9 oryza sativ
39	40	63.5	283	2	Q9F2U4	Q9f2u4 streptomyce
40	40	63.5	565	2	Q9KM11	Q9km11 vibrio chol
41	40	63.5	1000	2	Q9PCD0	Q9pcd0 xylella fas
42	39	61.9	101	8	O79746	O79746 omanosaura
43	39	61.9	322	2	Q9F3C9	Q9f3c9 streptomyce
44	39	61.9	379	10	Q9LV12	Q9lv12 arabidopsis
45	39	61.9	388	1	Q9YD14	Q9yd14 aeropyrum p

ALIGNMENTS

RESULT 1
Q9PRH0
ID Q9PRH0 PRELIMINARY; PRT; 91 AA.
AC Q9PRH0;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE GONADOLIBERIN PRECURSOR (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-
DE RH) (LULIBERIN).
OS Anguilla japonica (Japanese eel).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Anguilliformes; Anguilloidei;
OC Anguillidae; Anguilla.
OX NCBI_TaxID=7937;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=BRAIN;
RA Okubo K., Suetake H., Aida K.;
RT "Expression of two gonadotropin-releasing hormone (GnRH) precursor
RT genes in various tissues of the Japanese eel and evolution of GnRH.";
RL Zool. Sci. 16:471-478(1999).
RN [2]
RP SEQUENCE FROM N.A.
RA Okubo K., Suetake H., Aida K.;
RT "A splicing variant for the prepro-mammalian gonadotropin-releasing
RT hormone (prepro-mGnRH) mRNA is present in the brain and various
RT peripheral tissues of the Japanese eel.";
RL Zool. Sci. 16:645-651(1999).
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -!- SIMILARITY: TO THE GNRH FAMILY.
DR EMBL; AB026989; BAA82608.1; -.
DR EMBL; AB026991; BAA83597.1; -.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 22 POTENTIAL.
FT CHAIN 23 32 MGNRH.
FT CHAIN 33 91 GNRH ASSOCIATED PEPTIDE.
SQ SEQUENCE 91 AA; 9893 MW; BA15C9DC08434A7B CRC64;

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  Query Match             95.2%;  Score 60;  DB 13;  Length 91;
  Best Local Similarity   90.0%;  Pred. No. 0.0034;
  Matches    9;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||||||
Db     23 QHWSYGLRPG 32


RESULT   2
Q9YI26
ID   Q9YI26      PRELIMINARY;      PRT;    87 AA.
AC   Q9YI26;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN) (FRAGMENT).
OS   Sparus aurata (Gilthead sea bream).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Sparus.
OX   NCBI_TaxID=8175;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=OVARY;
RA   Nabissi M.;
RL   Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF046801; AAD02427.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
FT   NON_TER       1      1
FT   NON_TER      87     87
SQ   SEQUENCE   87 AA;  9871 MW;  0D2463533D96782A CRC64;


  Query Match             85.7%;  Score 54;  DB 13;  Length 87;
  Best Local Similarity   80.0%;  Pred. No. 0.036;
  Matches    8;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||| ||
Db     21 QHWSYGLSPG 30


RESULT   3
O73812
ID   O73812      PRELIMINARY;      PRT;    95 AA.
AC   O73812;
DT   01-AUG-1998 (TrEMBLrel. 07, Created)
DT   01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Morone saxatilis (Striped bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=34816;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Chow M.M., Kight K.E., Gothilf Y., Alok D., Zohar Y.;
RL   Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF056314; AAD03817.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   95 AA;  10411 MW;  980C6988FC279BFC CRC64;


  Query Match             85.7%;  Score 54;  DB 13;  Length 95;
  Best Local Similarity   80.0%;  Pred. No. 0.039;
  Matches    8;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||| ||
Db     23 QHWSYGLSPG 32


RESULT   4
Q9IA10
ID   Q9IA10      PRELIMINARY;      PRT;    99 AA.
AC   Q9IA10;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Dicentrarchus labrax (European sea bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Dicentrarchus.
OX   NCBI_TaxID=13489;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Gonzalez-Martinez D., Madigou T., Zmora N., Anglade I., Zanuy S.,
RA   Zohar Y., Elizur A., Munoz-Cueto J.A., Kah O.;
RT   "Differential expression of three different prepro-GnRH
RT   (Gonadotrophin-releasing hormone) messengers in the brain of the
RT   European sea bass (Dicentrarchus labrax).";
RL   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Zmora N., Zohar Y., Elizur A.;
RT   "3 GnRH form in the seabass Dicentrarchus labrax.";
RL   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF224279; AAF62898.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   99 AA;  10758 MW;  EC8AEEC93CC02904 CRC64;


  Query Match             85.7%;  Score 54;  DB 13;  Length 99;
  Best Local Similarity   80.0%;  Pred. No. 0.041;
  Matches    8;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||| ||
Db     27 QHWSYGLSPG 36


RESULT   5
Q9IAU2
ID   Q9IAU2      PRELIMINARY;      PRT;    90 AA.
AC   Q9IAU2;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
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DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Rana dybowskii (Frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.
OX   NCBI_TaxID=71582;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Yoo M.S., Kang H.M., Choi H.S., Chun S.Y., Troskie B., Millar R.P.,
RA   Kwon H.B.;
RT   "Molecular Cloning, Distribution and Phamacological Characterization
RT   of a Novel Gonadotropin-Releasing Hormone([Trp8]GnRH) in Frog Brain.";
RL   Mol. Cell. Endocrinol. 0:0-0(2000).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF139911; AAF44343.1; -.
DR   InterPro; IPR002012; GnRH.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   90 AA;  10368 MW;  C3D573E78B52ABFA CRC64;


  Query Match             82.5%;  Score 52;  DB 13;  Length 90;
  Best Local Similarity   80.0%;  Pred. No. 0.082;
  Matches    8;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||||| ||
Db      25 QHWSYGLWPG 34


RESULT   6
Q9DGC8
ID   Q9DGC8      PRELIMINARY;      PRT;    91 AA.
AC   Q9DGC8;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   PREPRO-GONADOTROPIN-RELEASING HORMONE.
GN   MDGNRH.
OS   Oryzias latipes (Medaka fish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC   Beloniformes; Adrianichthyidae; Oryziinae; Oryzias.
OX   NCBI_TaxID=8090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RX   PubMed=11006121;
RA   Okubo K., Amano M., Yoshiura Y., Suetake H., Aida K.;
RT   "A Novel Form of Gonadotropin-Releasing Hormone in the Medaka, Oryzias
RT   latipes.";
RL   Biochem. Biophys. Res. Commun. 276:298-303(2000).
DR   EMBL; AB041333; BAB16303.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; UNKNOWN_1.
FT   CHAIN        22     31       GONADOTROPIN-RELEASING HORMONE.
SQ   SEQUENCE   91 AA;  10307 MW;  A00F2BED6FD6E0B5 CRC64;


  Query Match             79.4%;  Score 50;  DB 13;  Length 91;
  Best Local Similarity   70.0%;  Pred. No. 0.18;
  Matches    7;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||:|| ||
Db      22 QHWSFGLSPG 31


RESULT   7
Q9W7G0
ID   Q9W7G0      PRELIMINARY;      PRT;    33 AA.
AC   Q9W7G0;
DT   01-NOV-1999 (TrEMBLrel. 12, Created)
DT   01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN) (FRAGMENT).
GN   GNRH2.
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99312119; PubMed=10385393;
RA   Von Schalburg K.R., Sherwood N.M.;
RT   "Regulation and expression of gonadotropin-releasing hormone gene
RT   differs in brain and gonads in rainbow trout.";
RL   Endocrinology 140:3012-3024(1999).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Von Schalburg K.R., Sherwood N.M.;
RL   Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF110993; AAD43463.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
FT   NON_TER      33     33
SQ   SEQUENCE   33 AA;  3668 MW;  099C825E4A72A3BB CRC64;


  Query Match             74.6%;  Score 47;  DB 13;  Length 33;
  Best Local Similarity   70.0%;  Pred. No. 0.21;
  Matches    7;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||||  ||
Db      24 QHWSYGWLPG 33


RESULT   8
Q9PT34
ID   Q9PT34      PRELIMINARY;      PRT;    33 AA.
AC   Q9PT34;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN) (FRAGMENT).
GN   GNRH1.
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99312119; PubMed=10385393;
RA   Von Schalburg K.R., Sherwood N.M.;
RT   "Regulation and expression of gonadotropin-releasing hormone gene
RT   differs in brain and gonads in rainbow trout.";
RL   Endocrinology 140:3012-3024(1999).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   von Schalburg K.R., Sherwood N.M.;
RL   Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
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CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF110533; AAD43461.1; -.
DR   InterPro; IPR002047; AKH.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00256; AKH; UNKNOWN_1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
FT   NON_TER      33     33
SQ   SEQUENCE   33 AA;  3741 MW;  1FE1535E742B7EBB CRC64;


  Query Match             74.6%;  Score 47;  DB 13;  Length 33;
  Best Local Similarity   70.0%;  Pred. No. 0.21;
  Matches    7;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||  ||
Db     24 QHWSYGWLPG 33


RESULT   9
Q92094
ID   Q92094      PRELIMINARY;      PRT;    82 AA.
AC   Q92094;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN PRECURSOR (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-
DE   RH) (LULIBERIN).
GN   PREPRO-GNRH-I.
OS   Oncorhynchus nerka (Sockeye salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8023;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=NIKKO; TISSUE=BRAIN;
RX   MEDLINE=96020547; PubMed=8546809;
RA   Ashihara M., Suzuki M., Kubokawa K., Yoshiura Y., Kobayashi M.,
RA   Urano A., Aida K.;
RT   "Two differing precursor genes for the salmon-type gonadotropin-
RT   releasing hormone exist in salmonids.";
RL   J. Mol. Endocrinol. 15:1-9(1995).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; D31868; BAA06666.1; -.
DR   InterPro; IPR002047; AKH.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00256; AKH; UNKNOWN_1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone; Signal.
FT   SIGNAL       1     23       POTENTIAL.
FT   CHAIN       24     33       GNRH.
FT   CHAIN       37     82       GNRH-ASSOCIATED PEPTIDE.
SQ   SEQUENCE   82 AA;  9126 MW;  C64044EA521B2B8B CRC64;


  Query Match             74.6%;  Score 47;  DB 13;  Length 82;
  Best Local Similarity   70.0%;  Pred. No. 0.55;
  Matches    7;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||  ||
Db     24 QHWSYGWLPG 33


RESULT  10
Q9W7G1
ID   Q9W7G1      PRELIMINARY;      PRT;    82 AA.
AC   Q9W7G1;
DT   01-NOV-1999 (TrEMBLrel. 12, Created)
DT   01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
GN   GNRH1.
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99312119; PubMed=10385393;
RA   Von Schalburg K.R., Sherwood N.M.;
RT   "Regulation and expression of gonadotropin-releasing hormone gene
RT   differs in brain and gonads in rainbow trout.";
RL   Endocrinology 140:3012-3024(1999).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Von Schalburg K.R., Sherwood N.M.;
RL   Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF110992; AAD43462.1; -.
DR   InterPro; IPR002047; AKH.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00256; AKH; UNKNOWN_1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   82 AA;  9232 MW;  7595B4FCC65FDFD6 CRC64;


  Query Match             74.6%;  Score 47;  DB 13;  Length 82;
  Best Local Similarity   70.0%;  Pred. No. 0.55;
  Matches    7;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||  ||
Db     24 QHWSYGWLPG 33


RESULT  11
Q9I8Q0
ID   Q9I8Q0      PRELIMINARY;      PRT;    82 AA.
AC   Q9I8Q0;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Ferriere F., Bailhache T., Jego P.;
RT   "Oncorhynchus mykiss sGnRH-I cDNA from brain.";
RL   Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF232212; AAF91280.1; -.
DR   InterPro; IPR002047; AKH.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00256; AKH; UNKNOWN_1.
DR   PROSITE; PS00473; GNRH; 1.
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KW   Amidation; Hormone.
SQ   SEQUENCE   82 AA;  9198 MW;  7595A0B896556A69 CRC64;


  Query Match             74.6%;  Score 47;  DB 13;  Length 82;
  Best Local Similarity   70.0%;  Pred. No. 0.55;
  Matches    7;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||  ||
Db     24 QHWSYGWLPG 33


RESULT  12
Q9I8P9
ID   Q9I8P9      PRELIMINARY;      PRT;    82 AA.
AC   Q9I8P9;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Ferriere F., Bailhache T., Jego P.;
RT   "Oncorhynchus mykiss sGnRH-II cDNA in the brain.";
RL   Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF232213; AAF91281.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   82 AA;  9203 MW;  8053F4F221A0FF08 CRC64;


  Query Match             74.6%;  Score 47;  DB 13;  Length 82;
  Best Local Similarity   70.0%;  Pred. No. 0.55;
  Matches    7;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||  ||
Db     24 QHWSYGWLPG 33


RESULT  13
Q9PSY9
ID   Q9PSY9      PRELIMINARY;      PRT;    88 AA.
AC   Q9PSY9;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN) (FRAGMENT).
OS   Sparus aurata (Gilthead sea bream).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Sparus.
OX   NCBI_TaxID=8175;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=OVARY;
RA   Nabissi M.;
RL   Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF046799; AAD02425.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
FT   NON_TER      88     88
SQ   SEQUENCE   88 AA;  9788 MW;  F7EB868C2FBDF19F CRC64;


  Query Match             74.6%;  Score 47;  DB 13;  Length 88;
  Best Local Similarity   70.0%;  Pred. No. 0.59;
  Matches    7;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||  ||
Db     24 QHWSYGWLPG 33


RESULT  14
Q9IA09
ID   Q9IA09      PRELIMINARY;      PRT;    90 AA.
AC   Q9IA09;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Dicentrarchus labrax (European sea bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Dicentrarchus.
OX   NCBI_TaxID=13489;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Gonzalez-Martinez D., Madigou T., Zmora N., Anglade I., Zanuy S.,
RA   Zohar Y., Elizur A., Munoz-Cueto J.A., Kah O.;
RT   "Differential expression of three different prepro-GnRH
RT   (Gonadotrophin-releasing hormone) messengers in the brain of the
RT   European sea bass (Dicentrarchus labrax).";
RL   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Zmora N., Zohar Y., Elizur A.;
RT   "The salmon GnRH form of the sea bass, Dicentrarchus labrax.";
RL   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF224280; AAF62899.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   90 AA;  10154 MW;  B06A7BA413930C67 CRC64;


  Query Match             74.6%;  Score 47;  DB 13;  Length 90;
  Best Local Similarity   70.0%;  Pred. No. 0.6;
  Matches    7;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          :|||||  ||
Db     24 QHWSYGWLPG 33


RESULT  15
Q9DD49
```

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ID   Q9DD49      PRELIMINARY;      PRT;    90 AA.
AC   Q9DD49;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
GN   SGNRH.
OS   Oryzias latipes (Medaka fish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC   Beloniformes; Adrianichthyidae; Oryziinae; Oryzias.
OX   NCBI_TaxID=8090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RX   PubMed=11006121;
RA   Okubo K., Amano M., Yoshiura Y., Suetake H., Aida K.;
RT   "A Novel Form of Gonadotropin-Releasing Hormone in the Medaka, Oryzias
RT   latipes.";
RL   Biochem. Biophys. Res. Commun. 276:298-303(2000).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AB041332; BAB16302.1; -.
DR   EMBL; AB041331; BAB16301.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
FT   CHAIN        24     33       GONADOTROPIN-RELEASING HORMONE.
SQ   SEQUENCE   90 AA;  10176 MW;  AE0B3DC9047475B9 CRC64;


  Query Match             74.6%;  Score 47;  DB 13;  Length 90;
  Best Local Similarity   70.0%;  Pred. No. 0.6;
  Matches    7;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
           :|||||  ||
Db      24 QHWSYGWLPG 33


Search completed: March 13, 2002, 09:04:16
Job time: 960 sec
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OM protein - protein search, using sw model

Run on: March 13, 2002, 08:45:52 ; Search time 115.24 Seconds
(without alignments)
6.428 Million cell updates/sec

Title: US-09-462-089-1
Perfect score: 63
Sequence: 1 EHWSYGLRPG 10

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 522463 seqs, 74073290 residues

Total number of hits satisfying chosen parameters: 522463

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_1101:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	63	100.0	10	2	AAP10411	Luteinising Hormon
2	63	100.0	10	2	AAP10416	Luteinising Hormon
3	63	100.0	10	6	AAP50222	Gonadotrophin rele
4	63	100.0	10	7	AAP60127	Gonadoliberin anta
5	63	100.0	10	7	AAP61403	Gonadotropin relea
6	63	100.0	10	7	AAP60576	Novel decapeptide
7	63	100.0	10	8	AAP70922	Luteinising hormon
8	63	100.0	10	10	AAP90630	Sequence of lutein
9	63	100.0	10	12	AAR15713	Peptide #1 with ho
10	63	100.0	10	13	AAR26819	LH releasing hormo
11	63	100.0	10	15	AAR62689	LHRH hapten for at
12	63	100.0	10	16	AAR91197	LHRH peptide. Syn
13	63	100.0	10	16	AAR86845	Gonadotropin relea
14	63	100.0	10	16	AAR75152	Gonadotropin relea
15	63	100.0	10	17	AAW65201	Luteinising hormon
16	63	100.0	10	17	AAW65203	Luteinising hormon
17	63	100.0	10	18	AAW45642	Luteinising hormon
18	63	100.0	10	18	AAW04612	Lutenizing hormone
19	63	100.0	10	19	AAW76373	Rat GnHR peptide.
20	63	100.0	10	20	AAY50229	Neutrophil-activat
21	63	100.0	10	20	AAY31176	Ubiquitin fusion p
22	63	100.0	10	20	AAY31067	Non-crosslinked pr
23	63	100.0	10	20	AAY03856	Amino acid sequenc
24	63	100.0	10	20	AAW94890	LHRH peptide fragm
25	63	100.0	10	20	AAW96765	Luteinising hormon
26	63	100.0	10	20	AAW84278	Hormone domain of
27	63	100.0	10	20	AAW83360	Luteinising hormon
28	63	100.0	10	21	AAB10930	Gonadorelin peptid
29	63	100.0	10	21	AAB15362	Human LHRH peptide
30	63	100.0	10	21	AAB20863	Gonadotropin relea
31	63	100.0	10	21	AAB20777	Luteinising hormon
32	63	100.0	10	21	AAY96084	Gonadotropin relea
33	63	100.0	10	21	AAB08103	Amino acid sequenc
34	63	100.0	10	21	AAB03590	Luteinising hormon
35	63	100.0	10	21	AAB06261	Gonadotrophin rele
36	63	100.0	10	21	AAY88576	Gonadotrophin-Rele
37	63	100.0	10	21	AAY82376	Mammalian releasin
38	63	100.0	10	21	AAY79054	Luteinising hormon
39	63	100.0	10	21	AAY91197	LHRH target antige
40	63	100.0	10	21	AAY68566	Luteinising hormon
41	63	100.0	10	21	AAY58136	Native mammalian g
42	63	100.0	10	21	AAY55061	Luteinising hormon
43	63	100.0	10	22	AAB74991	Gonadotropin relea
44	63	100.0	10	22	AAB90963	Luteinising hormon
45	63	100.0	10	22	AAB71947	GnRH monomer pepti

ALIGNMENTS

RESULT 1
AAP10411
ID AAP10411 standard; peptide; 10 AA.
XX
AC AAP10411;
XX
DT 17-DEC-1992 (first entry)
XX
DE Luteinising Hormone Releasing Hormone.
XX
KW LHRH; Follicle Stimulating Factor; FSH; acne; hirsutism;
KW dysmennorhea; precocious puberty; endometriosis; prostate cancer;
KW benign prostate hypertrophy; mammary tumour.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /label= OTHER
FT /note= "pyroglutamic acid"
FT Modified-site 10
FT /note= "amidated"
XX
PN BE885308-A.
XX
PD 19-MAR-1981.
XX
PF 23-FEB-1983; 83BE-0468932.
XX
PR 21-SEP-1979; 79FR-0023545.
XX
PA (ROUS) ROUSSEL UCLAF.
XX
DR WPI; 1981-23409D/14 (23409D).
XX
PT LH-RH, liberating factor for LH and FSH, and its agonists compsn.

```
PT   - used to treat prostate adenocarcinoma, benign hypertrophy of
PT   the prostate, hirsutism, acne, etc.
XX
PS   Claim 1(a); Page 15; 27pp; French.
XX
CC   A composition is claimed containing LHRH or its analogues. The
CC   composition is used to treat prostate adenocarcinoma, benign
CC   hypertrophy of the prostate, endometriosis, dysmenorrhea, hirsutism,
CC   hormone-dependent mammary tumours, for treatment or prevention of
CC   precocious puberty, delaying the onset of puberty and for treating
CC   acne. The compositions may also contain antiandrogens.
CC   See also AAP10412-P10418.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 63;  DB 2;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00015;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 ehwsyglrpg 10


RESULT   2
AAP10416
ID   AAP10416 standard; peptide; 10 AA.
XX
AC   AAP10416;
XX
DT   17-DEC-1992  (first entry)
XX
DE   Luteinising Hormone Releasing Hormone analogue #5.
XX
KW   LHRH; Follicle Stimulating Factor; FSH; acne; hirsutism;
KW   dysmennorhea; precocious puberty; endometriosis; prostate cancer;
KW   benign prostate hypertrophy; mammary tumour.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= OTHER
FT                   /note= "pyroglutamic acid"
FT   Modified-site   7
FT                   /label= OTHER
FT                   /note= "N-alpha-methyl-Leu"
FT   Modified-site   10
FT                   /note= "amidated or absent, in which case Pro(9)
FT                    is Pro-NH-C2H5"
XX
PN   BE885308-A.
XX
PD   19-MAR-1981.
XX
PF   23-FEB-1983;   83BE-0468932.
XX
PR   21-SEP-1979;   79FR-0023545.
XX
PA   (ROUS ) ROUSSEL UCLAF.
XX
DR   WPI; 1981-23409D/14  (23409D).
XX
PT   LH-RH, liberating factor for LH and FSH, and its agonists compsn.
PT   - used to treat prostate adenocarcinoma, benign hypertrophy of
PT   the prostate, hirsutism, acne, etc.
XX
PS   Claim 1(f); Page 16; 27pp; French.
XX
CC   A composition is claimed containing LHRH or its analogues. The
CC   composition is used to treat prostate adenocarcinoma, benign
CC   hypertrophy of the prostate, endometriosis, dysmenorrhea, hirsutism,
CC   hormone-dependent mammary tumours, for treatment or prevention of
CC   precocious puberty, delaying the onset of puberty and for treating
CC   acne. The compositions may also contain antiandrogens.
CC   See AAP10411-P10418.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 63;  DB 2;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00015;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 ehwsyglrpg 10


RESULT   3
AAP50222
ID   AAP50222 standard; Protein; 10 AA.
XX
AC   AAP50222;
XX
DT   20-JAN-1992  (first entry)
XX
DE   Gonadotrophin release stimulating hormone.
XX
KW   GnRH; LH-RH; LRF; gonadotrophins; steroids; contraceptive.
XX
OS   Synthetic.
XX
PN   EP143573-A.
XX
PD   05-JUN-1985.
XX
PF   05-NOV-1984;   84EP-0307625.
XX
PR   29-NOV-1983;   83US-0556148.
PR   30-AUG-1985;   85US-0771517.
XX
PA   (SALK ) SALK INST FOR BIOL STUD.
XX
PI   Roeske RW,  Rivier JE,  Vale WW;
XX
DR   WPI; 1985-136434/23.
XX
PT   New GnRH antagonist peptide(s) - useful as inhibitors of
PT   gonadotropin(s) and/or steroid(s) for contraceptive use.
XX
PS   Disclosure; Page 1; 20pp; English.
XX
CC   The claimed peptide antagonists inhibit the release of gonadotrophins
CC   and/or steroids. They are antagonistic to GnRH, inhibit ovulation, and
CC   may cause resorption of a fertilised egg if administered shortly after
CC   absorption. The peptides also have utility in male contraception, and
CC   in treatment of precoscious puberty, hormone dependent neoplasia,
CC   dysmenorrhoea and endometriosis.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 63;  DB 6;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00015;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 ehwsyglrpg 10


RESULT   4
AAP60127
ID   AAP60127 standard; Peptide; 10 AA.
XX
AC   AAP60127;
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```
XX
DT   12-JUN-1991  (first entry)
XX
DE   Gonadoliberin antagonist.
XX
KW   Gonadoliberin antagonist; contraceptive; antitumor.
XX
PN   EP201260-A.
XX
PD   12-NOV-1986.
XX
PF   28-APR-1986;   86EP-0303210.
XX
PR   09-MAY-1985;   85US-0732531.
XX
PA   (SALK ) SALK INST FOR BIOL STUD.
XX
PI   Rivier JEF,  Varga JI,  Hagler AT,  Struthers RS,  Perrin MH;
PI   Rivier CL,  Vale WW;
XX
DR   WPI; 1986-299774/46.
XX
PT   New peptide gonadotropin releasing hormone antagonists - useful
PT   esp. as contraceptives, for treating early puberty,
PT   hormone-dependent neoplasms etc.
XX
PS   Disclosure; Page 1; 33pp; English.
XX
CC   The decapeptide encodes a gonadoliberin antagonist, which may be
CC   used as a male contraceptive and as an antitumour (against steroid-
CC   dependent tumours).
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 63;  DB 7;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00015;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 ehwsyglrpg 10


RESULT   5
AAP61403
ID   AAP61403 standard; protein; 10 AA.
XX
AC   AAP61403;
XX
DT   04-AUG-1991  (first entry)
XX
DE   Gonadotropin releasing hormone.
XX
KW   Gonadotropin releasing hormone; analogue; peptide synthesis;
KW   ovulation; veterinary medicine; fertility;
XX
PN   DD232500-A.
XX
PD   29-JAN-1986.
XX
PF   08-MAY-1984;   84DD-0262804.
XX
PR   08-MAY-1984;   84DD-0262804.
XX
PA   (DEAK ) AKAD WISSENSCHAFT DDR.
XX
PI   Kaufmann KD,  Dolling R,  Handel L;
XX
DR   WPI; 1986-137868/22.
XX
PT   Prepn. of gonadotropin liberating hormone and analogues - by
PT   multistage rapid peptide synthesis in soln. without isolating
PT   intermediates
XX
PS   Disclosure; page 7; 8pp; german.
XX
CC   The gonadotropin releasing hormone and its analogues are prepd. by a
CC   new multistage rapid peptide synthesis method in soln., where the
CC   intermediates are not isolated. The process is rapid and gives very
CC   pure peptide quickly and using little equipment. The peptide can be
CC   used in veterinary medicine to synchronise ovulation in large animal
CC   herds, and in human medicine in the treatment of fertility disorders.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 63;  DB 7;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00015;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 ehwsyglrpg 10


RESULT   6
AAP60576
ID   AAP60576 standard; Protein; 10 AA.
XX
AC   AAP60576;
XX
DT   27-OCT-1991  (first entry)
XX
DE   Novel decapeptide with LHRH inhibition activity.
XX
KW   Lutenising hormone releasing hormone activity.
XX
OS   Synthetic.
XX
PN   JP61210098-A.
XX
PD   18-SEP-1986.
XX
PF   23-AUG-1985;   85JP-0185616.
XX
PR   23-AUG-1984;   84US-0643643.
XX
PA   (TULA-) ADMIN TULANE EDUCAT.
PA   (TULA ) TULANE E FUND ADMINISTRA.
XX
DR   WPI; 1986-321434/49.
XX
PT   Deca:peptide - inhibits LH-RH hormone release activity.
XX
PS   Disclosure; Page 990; 5pp; Japanese.
XX
CC   Peptide inhibits the release of lutenising hormone releasing hormone.
CC   See also AAP60575.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 63;  DB 7;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00015;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 ehwsyglrpg 10


RESULT   7
AAP70922
ID   AAP70922 standard; peptide; 10 AA.
XX
```

```
AC   AAP70922;
XX
DT   01-MAY-1991  (first entry)
XX
DE   Luteinising hormone releasing hormone agonist.
XX
KW   LHRH; contraception; precocious puberty; endometriosis;
KW   breast tumours; prostate tumours; ectopic tumours; menopause.
XX
OS   synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   10..10
FT                   /label= other
FT                   /note= "other= ketomethylene(Gly), dihydroketo-
FT                        methylene(Gly)"
FT   Modified-site   1..1
FT                   /label= other
FT                   /note= "other= pyroglutamic acid"
XX
PN   US4705778-A.
XX
PD   10-NOV-1987.
XX
PF   22-OCT-1985;   85US-0790031.
XX
PR   22-OCT-1985;   85US-0790031.
XX
PA   (STRI ) SRI INTERNATIONAL.
XX
PI   Almquist RG,  Olsen CM;
XX
DR   WPI; 1987-334627/47.
XX
PT   Orally active luteinising hormone-releasing hormone peptide
PT   analogues - have keto:methylene or hydroxy:ethylene in place of
PT   amide between proline(9) and glycine(10)
XX
PS   Disclosure; page 4; 17pp; English.
XX
CC   This luteinising hormone releasing hormone (LHRH) agonist has
CC   either a ketomethylene or dihydroketomethylene gp. replacing the
CC   amide linkage between residues 9 and 10 in LHRH.  This results in
CC   an increase in oral activity.  It is useful for eg male and
CC   female contraception, treatment of precocious puberty and endo-
CC   metriosis and treatment of breast- and prostate tumours.
CC   See also AAP70923-27.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 63;  DB 8;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00015;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 ehwsyglrpg 10


RESULT   8
AAP90630
ID   AAP90630 standard; protein; 10 AA.
XX
AC   AAP90630;
XX
DT   14-JUN-1989  (first entry)
XX
DE   Sequence of luteinizing hormone releasing hormone (LHRH).
XX
KW   Luteinizing hormone releasing hormone (LHRH); LHRH antagonist;
KW   19-nor-progestational agent; female gynaecological disorders.
XX
PN   EP301850-A.
XX
PD   01-FEB-1989.
XX
PF   28-JUL-1988;   88EP-0306947.
XX
PR   31-JUL-1987;   87US-0080518.
XX
PA   (SYNT ) SYNTEX (USA) INC.
XX
PI   Vickery BH;
XX
DR   WPI; 1989-033720/05.
XX
PT   Compsn. comprising LHRH-antagonist and 19-nor progestational agent -
PT   for treating female gynaecological disorders based on gonads
PT   steroid producn.
XX
PS   Disclosure; Page 2; 31pp; English.
XX
CC   Analogues (I) of the sequence pref. have amino acid (AA) substitutions at
CC   posns. 2 (his is replaced by a D-AA) and 6 (gly is replaced by a D-AA).
CC   A therapeutically effective amt. of such an antagonist is contained in a
CC   pharmaceutical compsn. alongside a menopausal-symtom-alleviating amt. of
CC   a 19-nor progestational agent (II) (pref. both in single formulation).
CC   The compsn. is pref. administered nasally in dosages of 0.01-1 mg/kg/ day
CC   for (I) and 0.02-0.07 mg/kg/day for (II). May be used for inhibition of
CC   ovulation, and treatment of eg endometriosis, breast cancer, polycistic
CC   ovarian disease, or precocious puberty in female mammals.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 63;  DB 10;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00015;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 ehwsyglrpg 10


RESULT   9
AAR15713
ID   AAR15713 standard; Protein; 10 AA.
XX
AC   AAR15713;
XX
DT   24-JAN-1992  (first entry)
XX
DE   Peptide #1 with homology to LHRH.
XX
KW   luliberin.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= OTHER
FT                   /note= "pyroGlu"
FT   Modified-site   9
FT                   /label= Hyp
FT   Modified-site   10
FT                   /label= OTHER
FT                   /note= "amidated"
XX
PN   WO9116343-A.
XX
PD   31-OCT-1991.
XX
PF   22-APR-1991;   91WO-FR00332.
XX
PR   23-APR-1990;   90FR-0005147.
```

XX
PA (INRM) INSERM INST NAT SANTE.
XX
PI Gautron J, Pattou E, Kordon C, Bauer K;
XX
DR WPI; 1991-339753/46.
XX
PT New peptide homologous with luteinising hormone-releasing hormone
PT - used to treat gynaecological conditions, cancer of gonads and
PT sec. sexual organs, psychiatric conditions and in assays
XX
PS Claim 3; Page 50; 83pp; French.
XX
CC The C-terminal residue (Gly-CO-NH2) can be replaced by ethylamide.
CC This peptide and fragments of it (i.e. amino acids 4-10, 5-10, 6-10
CC and 7-10) are agonists and antagonists of LHRH. They are useful for
CC treating e.g. precocious or delayed puberty, psychiatric disorders
CC esp. those of the libido or sexual aggression, etc. In addition they
CC are useful for functional exploration of the hypothalamus-hypophyseal
CC axis and for radioimmunological or biological assay (of LH, FSH and
CC steroid levels) in biological fluids and biopsy samples.
XX
SQ Sequence 10 AA;

Query Match 100.0%; Score 63; DB 12; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.00015;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EHWSYGLRPG 10
||||||||||
Db 1 ehwsyglrpg 10

RESULT 10
AAR26819
ID AAR26819 standard; peptide; 10 AA.
XX
AC AAR26819;
XX
DT 10-FEB-1993 (first entry)
XX
DE LH releasing hormone antagonists.
XX
KW Luteinising hormone; LHRH; hypothalamic; antiovulatory; tumours;
KW antineoplastic; precocious puberty; ovulation; contraceptive.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 1
FT /label= pGlu
FT Modified-site 10
FT /note= "amidated"
XX
PN WO9213883-A.
XX
PD 20-AUG-1992.
XX
PF 29-JAN-1992; 92WO-US00776.
XX
PR 30-JAN-1991; 91US-0647786.
XX
PA (TULA) TULANE EDUCATIONAL FUND.
XX
PI Janaky T, Juhasz A, Schally AV;
XX
DR WPI; 1992-299984/36.
XX
PT New deca:peptide luteinising hormone-releasing hormone
PT antagonists - for treating precocious puberty, hormone dependent
PT tumours, endometritis, cystic diseases; also as contraceptive
XX
PS Disclosure; Page 1; 43pp; English.
XX
CC The decapeptides is an antagonistic analogue of hypothalamic LHRH
CC which possesses high antiovulatory and antineoplastic activity, is
CC free of anaphylactoid side effects and is believed to be free of
CC endematogenic effects. The peptide may be used to treat precocious
CC puberty, hormone dependent tumours, e.g. malignant and benign
CC prostate tumours, e.g. secondary amenorrhoea, endometriosis and
CC ovarian and mammary cystic diseases. The peptide is also useful
CC for regulating ovulation e.g. as precoital or postcoital
CC contraceptives, for synchronising oestrus in livestock and for
CC improving the "rhythm" method. It is also useful for regulating
CC the human menopausal gonadotropin, follicle stimulating and LH levels
CC during premenopausal and postmenopausal periods. As it suppresses
CC the spermatogenesis and testosterone levels in males, it may be of
CC potential use for male contraception.
CC See also AAR26818, AAR29046-7.
XX
SQ Sequence 10 AA;

Query Match 100.0%; Score 63; DB 13; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.00015;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EHWSYGLRPG 10
||||||||||
Db 1 ehwsyglrpg 10

RESULT 11
AAR62689
ID AAR62689 standard; peptide; 10 AA.
XX
AC AAR62689;
XX
DT 10-SEP-1995 (first entry)
XX
DE LHRH hapten for attachment to universal immune stimulator.
XX
KW Helper T cell epitope; universal immune stimulator; invasin; hapten;
KW vaccine; LHRH; luteinising hormone releasing hormone; prostate;
KW androgen-dependent carcinoma; antitumour; infertility.
XX
OS Homo sapiens.
XX
PN WO9425060-A.
XX
PD 10-NOV-1994.
XX
PF 28-APR-1994; 94WO-US04832.
XX
PR 27-APR-1993; 93US-0057166.
PR 14-APR-1994; 94US-0229275.
XX
PA (LADD/) LADD A E.
PA (WANG/) WANG C Y.
PA (ZAMB/) ZAMB T.
XX
PI Ladd AE, Wang CY, Zamb T;
XX
DR WPI; 1994-357910/44.
XX
PT Immunogenic luteinising hormone releasing hormone peptide(s) -
PT that suppress LHRH activity in males and females
XX
PS Claim 6; Page 104; 213pp; English.
XX
CC Synthetic immunogenic peptides are provided in which a universal immune
CC stimulator is linked to a peptide or protein hapten containing B cell
CC and/or cytotoxic T lymphocyte epitopes, giving a product which causes
CC potent immune responses to the coupled peptide or protein. The
CC stimulator consists of (A) a promiscuous helper T cell epitope (Th)

```
CC   which elicits an immune response to the coupled peptide in members of
CC   a heterogeneous population expressing diverse HLA phenotypes, and (B)
CC   an adjuvant peptide sequence from the invasin protein of Yersinia.
CC   Spacer amino acid sequences (e.g. Gly-Gly) can be provided between the
CC   invasin and Th domains and between the immune stimulator and hapten
CC   components. When the hapten is LHRH, then optionally the invasin domain
CC   can be omitted from the immune stimulator component.
CC   The present sequence represents an LHRH hapten which can be
CC   attached to the stimulator to provide a potent vaccine for
CC   treating e.g. prostatic hyperplasia, androgen-dependent carcinoma,
CC   prostatic carcinoma, testicular carcinoma, endometriosis, benign
CC   uterine tumours, recurrent functional ovarian cysts, (severe)
CC   premenstrual syndrome or oestrogen-dependent breast cancer, or for
CC   induction of infertility.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 63;  DB 15;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00015;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db      1 ehwsyglrpg 10


RESULT  12
AAR91197
ID   AAR91197 standard; peptide; 10 AA.
XX
AC   AAR91197;
XX
DT   06-SEP-1996  (first entry)
XX
DE   LHRH peptide.
XX
KW   luteinising hormone releasing hormone; follicle stimulating; FSH;
KW   gonadorelin.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /note= "pyroglutamic acid"
FT   Modified-site   10
FT                   /note= "Gly-NH2"
XX
PN   CA1335403-C.
XX
PD   25-APR-1995.
XX
PF   06-MAY-1988;   88CA-0566195.
XX
PR   06-MAY-1988;   88CA-0566195.
XX
PA   (BOEH ) BIO-MEGA/BOEHRINGER INGELHEIM RES INC.
XX
PI   Gauthier JA;
XX
DR   WPI; 1995-179260/24.
XX
PT   Prepn. of luteinising hormone and follicle stimulating hormone
PT   releasing peptide(s)  - by cleaving a protected nona-peptide resin
PT   by photolysis to remove the support, coupling with glycinamide and
PT   deprotecting
XX
PS   Claim 1; ; 18pp; English.
XX
CC   A new method is provided for preparing a decapeptide of formula
CC   pGlu-His-Trp-Ser-Tyr-Xaa-Leu-Arg-Pro-Gly-NH2, in which a protected
CC   nonapeptide corresponding to the N-terminal of the peptide is first
CC   prepared on a benzhydrylamine resin, the Pro residue being attached
CC   to the resin via a photosensitive linker. The nonapeptide is cleaved
CC   from the resin by photolysis, the C-terminal is activated, and the
CC   product is coupled with glycinamide to add the Gly-NH2. The
CC   decapeptide is then deprotected. In the decapeptide, Xaa is Gly (giving
CC   gonadorelin; the present sequence), D-2-Nal or D-Trp.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 63;  DB 16;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00015;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 ehwsyglrpg 10


RESULT  13
AAR86845
ID   AAR86845 standard; peptide; 10 AA.
XX
AC   AAR86845;
XX
DT   22-MAR-1996  (first entry)
XX
DE   Gonadotropin releasing hormone.
XX
KW   Gonadotropin releasing hormone; GnRH; motility disorder;
KW   functional bowel disease; leuprolide acetate; luteinising hormone;
KW   progesterone; relaxin; autonomic nervous system; drug delivery; therapy;
KW   irritable bowel syndrome; diabetes; scleroderma; Parkinson's disease.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= OTHER
FT                   /note= "pyroglutamic acid"
FT   Cleavage-site   6..7
FT   Modified-site   10
FT                   /note= "amidated"
XX
PN   US5434136-A.
XX
PD   18-JUL-1995.
XX
PF   14-DEC-1990;   90US-0626402.
XX
PR   19-OCT-1992;   92US-0965675.
PR   14-DEC-1990;   90US-0626402.
PR   14-AUG-1991;   91US-0744977.
XX
PA   (MATH/) MATHIAS J R.
XX
PI   Mathias JR;
XX
DR   WPI; 1995-263259/34.
XX
PT   Treating motility disorders associated with systemic lupus
PT   erythematosus - by admin. of gonadotropin releasing hormone
PT   analogue, to control nausea, vomiting, abdominal pain etc.
XX
PS   Disclosure; Column 3; 14pp; English.
XX
CC   This sequence represents naturally occuring gonadotropin releasing
CC   hormone (GnRH).  Analogues of GnRH are represented by AAR86846-56.
CC   Motility disorders, including functional bowel disease, can be treated
CC   by the administration of one of the GnRH analogues shown here (e.g.
CC   leuprolide acetate).  This is due to the GnRH analogue inhibiting
CC   production of reproductive hormones such as luteinising hormone,
CC   progesterone and relaxin.  Motility disorders are caused from
CC   abnormalities of the autonomic nervous system.  Due to this, the GnRH
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CC   analogues may also exert effects on the autonomic nervous system.  The
CC   GnRH analogues are administered by injection (which may be intavenous,
CC   subcutaneous or intramuscular), or by a drug delivery system.  The drug
CC   delivery system can comprise a drug implant with timed release, a nasal
CC   spray or an injection of a long-lasting depo form.  This method is used
CC   to alleviate symptoms such as nausea, vomiting, abdominal pain and
CC   altered bowel habits.  The sequences can be used to treat motility
CC   disorders in a wide variety of other diseases including irritable bowel
CC   syndrome, diabetes, scleroderma and Parkinson's disease.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 63;  DB 16;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00015;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
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Db      1 ehwsyglrpg 10


RESULT  14
AAR75152
ID   AAR75152 standard; Peptide; 10 AA.
XX
AC   AAR75152;
XX
DT   19-DEC-1995  (first entry)
XX
DE   Gonadotropin releasing hormone.
XX
KW   Gonadotropin releasing hormone; GnRH; gonadoliberin; reproduction;
KW   transgenic animal; transgenic fish; transgenic fowl.
XX
OS   Mammalia.
XX
PN   WO9512309-A1.
XX
PD   11-MAY-1995.
XX
PF   04-NOV-1994;   94WO-US12763.
XX
PR   05-NOV-1993;   93US-0147771.
XX
PA   (STRD ) UNIV LELAND STANFORD JUNIOR.
PA   (UYOR-) UNIV OREGON HEALTH SCI.
PA   (UYOR-) UNIV OREGON STATE.
XX
PI   Adelman JP,  Fernald RD;
XX
DR   WPI; 1995-185526/24.
XX
PT   New gonadotropin releasing hormone preprohormone DNA - used to
PT   develop prods. for regulation of reproductive function and diagnosis
PT   of reproductive capacity and disease
XX
PS   Disclosure; Fig.1a; 85pp; English.
XX
CC   8 Different forms of GnRH (given in AAR75152-59) have previously
CC   been isolated from vertebrate species.  A precursor for an
CC   additional form of GnRH, (Ser8)-GnRH (AAR75151), has now been
CC   obtd.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 63;  DB 16;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00015;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
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Db      1 ehwsyglrpg 10


RESULT  15
AAW65201
ID   AAW65201 standard; peptide; 10 AA.
XX
AC   AAW65201;
XX
DT   02-OCT-1998  (first entry)
XX
DE   Luteinising hormone-releasing hormone (LH-RH).
XX
KW   Bradykinin; N-benzylglycine; agonist; receptor study; antagonist;
KW   achiral; analgesic; luteinising hormone-releasing hormone; LHRH;
KW   gonadoliberin.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /note= "Pyroglutamic acid"
FT   Modified-site   10
FT                   /note= "C-terminal amide"
XX
PN   US5527882-A.
XX
PD   18-JUN-1996.
XX
PF   07-NOV-1994;   94US-0335202.
XX
PR   07-JUL-1989;   89US-0376839.
PR   16-SEP-1992;   92US-0945664.
PR   07-NOV-1994;   94US-0335202.
XX
PA   (REGC ) UNIV CALIFORNIA.
XX
PI   Mitchell AR,  Young JD;
XX
DR   WPI; 1996-299898/30.
XX
PT   New bradykinin analogues contg. N-benzyl-glycine - useful as
PT   bradykinin agonists or antagonists, useful e.g. as analgesics
XX
PS   Disclosure; Columns 11-12; 15pp; English.
XX
CC   The invention relates to the obtaining of a potent agonist or antagonist
CC   peptide by the replacement of selected amino acids with synthetic
CC   achiral amino acids. The present sequence represents a luteinising
CC   hormone-releasing hormone (LHRH).
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 63;  DB 17;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00015;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db      1 ehwsyglrpg 10


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Job time: 268 sec
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GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 08:45:52 ; Search time 55.91 Seconds
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Title: US-09-462-089-1
Perfect score: 63
Sequence: 1 EHWSYGLRPG 10

Scoring table: BLOSUM62
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Searched: 212252 seqs, 22503292 residues

Total number of hits satisfying chosen parameters: 212252

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
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Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	63	100.0	10	1	US-07-714-540-9	Sequence 9, Appli
2	63	100.0	10	1	US-07-690-983D-2	Sequence 2, Appli
3	63	100.0	10	1	US-07-690-983D-32	Sequence 32, Appl
4	63	100.0	10	1	US-08-343-883-1	Sequence 1, Appli
5	63	100.0	10	1	US-08-000-931-5	Sequence 5, Appli
6	63	100.0	10	1	US-08-428-488-22	Sequence 22, Appl
7	63	100.0	10	1	US-08-341-219-11	Sequence 11, Appl
8	63	100.0	10	1	US-08-453-588-22	Sequence 22, Appl
9	63	100.0	10	1	US-08-591-917-1	Sequence 1, Appli
10	63	100.0	10	1	US-08-446-692-1	Sequence 1, Appli
11	63	100.0	10	2	US-08-796-598-6	Sequence 6, Appli
12	63	100.0	10	2	US-08-694-865-18	Sequence 18, Appl
13	63	100.0	10	2	US-08-488-351A-1	Sequence 1, Appli
14	63	100.0	10	2	US-08-480-494B-1	Sequence 1, Appli
15	63	100.0	10	2	US-08-447-175A-6	Sequence 6, Appli
16	63	100.0	10	3	US-08-521-079-22	Sequence 22, Appl
17	63	100.0	10	3	US-09-124-491-18	Sequence 18, Appl
18	63	100.0	10	3	US-09-100-414B-77	Sequence 77, Appl
19	63	100.0	10	3	US-08-927-128-13	Sequence 13, Appl
20	63	100.0	10	4	US-08-912-314A-11	Sequence 11, Appl
21	63	100.0	10	4	US-09-303-323-77	Sequence 77, Appl
22	63	100.0	10	4	US-09-373-180-1	Sequence 1, Appli
23	63	100.0	10	6	5168061-1	Patent No. 5168061
24	63	100.0	10	6	5169865-10	Patent No. 5169865
25	63	100.0	10	6	5169935-1	Patent No. 5169935
26	63	100.0	10	6	5488036-1	Patent No. 5488036
27	63	100.0	10	6	5492893-1	Patent No. 5492893
28	63	100.0	12	1	US-08-302-915-2	Sequence 2, Appli
29	63	100.0	14	1	US-07-690-983D-22	Sequence 22, Appl
30	63	100.0	14	1	US-07-690-983D-24	Sequence 24, Appl
31	63	100.0	14	1	US-07-690-983D-26	Sequence 26, Appl
32	63	100.0	14	1	US-07-690-983D-30	Sequence 30, Appl
33	63	100.0	16	1	US-07-690-983D-14	Sequence 14, Appl
34	63	100.0	17	1	US-07-690-983D-16	Sequence 16, Appl
35	63	100.0	17	1	US-07-690-983D-18	Sequence 18, Appl
36	63	100.0	18	1	US-07-690-983D-20	Sequence 20, Appl
37	63	100.0	18	1	US-07-690-983D-28	Sequence 28, Appl
38	63	100.0	20	1	US-07-690-983D-40	Sequence 40, Appl
39	63	100.0	24	1	US-07-690-983D-43	Sequence 43, Appl
40	63	100.0	25	1	US-08-446-692-12	Sequence 12, Appl
41	63	100.0	25	1	US-08-446-692-17	Sequence 17, Appl
42	63	100.0	25	2	US-08-488-351A-12	Sequence 12, Appl
43	63	100.0	25	2	US-08-488-351A-17	Sequence 17, Appl
44	63	100.0	26	1	US-08-446-692-29	Sequence 29, Appl
45	63	100.0	26	2	US-08-488-351A-29	Sequence 29, Appl

ALIGNMENTS

```
RESULT 1
US-07-714-540-9
; Sequence 9, Application US/07714540
; Patent No. 5262521
;  GENERAL INFORMATION:
;    APPLICANT:  Almquist, Ronald G.
;    APPLICANT:  Toll, Lawrence
;    TITLE OF INVENTION:  ISOLATED ATRIAL PEPTIDE-DEGRADING
;    TITLE OF INVENTION:  ENZYME AND NOVEL COMPOUNDS USEFUL AS INHIBITORS THEREOF
;    NUMBER OF SEQUENCES:  13
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Irell & Manella
;      STREET:  545 Middlefield Road, Suite 200
;      CITY:  Menlo Park
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94025
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/714,540
;      FILING DATE:  19910607
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Reed, Dianne E.
;      REGISTRATION NUMBER:  31,292
;      REFERENCE/DOCKET NUMBER:  8500-0135.00
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415-327-7250
;      TELEFAX:  415-327-2951
;      TELEX:  706141
;  INFORMATION FOR SEQ ID NO:  9:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  AMINO ACID
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-07-714-540-9


  Query Match           100.0%;  Score 63;  DB 1;  Length 10;
  Best Local Similarity  100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db      1 EHWSYGLRPG 10


RESULT   2
US-07-690-983D-2
; Sequence 2, Application US/07690983D
; Patent No. 5403586
;  GENERAL INFORMATION:
;    APPLICANT:  RUSSELL-JONES, Gregory J.
;    APPLICANT:  STEWART, Andrew G.
;    APPLICANT:  TSONIS, Con G.
;    TITLE OF INVENTION:  FUSION PROTEINS
;    NUMBER OF SEQUENCES:  47
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Foley & Lardner
;      STREET:  3000 K Street, N.W.
;      CITY:  Washington, D.C.
;      COUNTRY:  USA
;      ZIP:  20007-5109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/690,983D
;      FILING DATE:  25-JUN-1991
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/AU90/00373
;      FILING DATE:  24-AUG-1990
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BENT, Stephen A.
;      REGISTRATION NUMBER:  29,768
;      REFERENCE/DOCKET NUMBER:  16786/148 CHAC
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (202)672-5300
;      TELEFAX:  (202)672-5399
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  protein
US-07-690-983D-2


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Db      1 EHWSYGLRPG 10


RESULT   3
US-07-690-983D-32
; Sequence 32, Application US/07690983D
; Patent No. 5403586
;  GENERAL INFORMATION:
;    APPLICANT:  RUSSELL-JONES, Gregory J.
;    APPLICANT:  STEWART, Andrew G.
;    APPLICANT:  TSONIS, Con G.
;    TITLE OF INVENTION:  FUSION PROTEINS
;    NUMBER OF SEQUENCES:  47
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Foley & Lardner
;      STREET:  3000 K Street, N.W.
;      CITY:  Washington, D.C.
;      COUNTRY:  USA
;      ZIP:  20007-5109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/690,983D
;      FILING DATE:  25-JUN-1991
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/AU90/00373
;      FILING DATE:  24-AUG-1990
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BENT, Stephen A.
;      REGISTRATION NUMBER:  29,768
;      REFERENCE/DOCKET NUMBER:  16786/148 CHAC
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (202)672-5300
;      TELEFAX:  (202)672-5399
;  INFORMATION FOR SEQ ID NO:  32:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-07-690-983D-32


  Query Match             100.0%;  Score 63;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
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Db      1 EHWSYGLRPG 10


RESULT   4
US-08-343-883-1
; Sequence 1, Application US/08343883
; Patent No. 5573767
;  GENERAL INFORMATION:
;    APPLICANT:  Dufour, Raymond J.
;    APPLICANT:  Roulet, Claude J.M.
;    APPLICANT:  Chouvet, Claire D.
;    APPLICANT:  Bonneau, Michel B.
;    TITLE OF INVENTION:  Method for improving the organoleptic
;    TITLE OF INVENTION:  qualities of the meat from uncastrated male domestic
;    TITLE OF INVENTION:  animals, vaccines which are usable in this method, new
;    TITLE OF INVENTION:  peptide, in particular for producing these vaccines...
;    NUMBER OF SEQUENCES:  2
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Larson and Taylor
;      STREET:  727 Twenty-Third Street, South
;      CITY:  Arlington
;      STATE:  Virginia
;      COUNTRY:  USA
;      ZIP:  22202
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/343,883
;      FILING DATE:  17-NOV-1994
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/946,495
;      FILING DATE:  09-NOV-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  FR 9102513
;      FILING DATE:  01-MAR-1991
;    PRIOR APPLICATION DATA:
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;      APPLICATION NUMBER:  FR 9115289
;      FILING DATE:  10-DEC-1991
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  10
;      OTHER INFORMATION:  /label= NH2
;      OTHER INFORMATION:  /note= "amidated glycine"
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  1
;      OTHER INFORMATION:  /label= pyro
;      OTHER INFORMATION:  /note= "pyroglutamic acid"
;    PUBLICATION INFORMATION:
;      AUTHORS:  Matsuo, H.
;      AUTHORS:  Baba, Y.
;      AUTHORS:  G. Nair, R. M.
;      AUTHORS:  Arimura, A.
;      AUTHORS:  Schally, A. V.
;      TITLE:  Structure of the porcine LH- and
;      TITLE:  FSH-releasing hormone. I. The proposed amino acid
;      TITLE:  sequence.
;      JOURNAL:  Biochem. Biophys. Res. Commun.
;      VOLUME:  43
;      ISSUE:  6
;      PAGES:  1334-1339
;      DATE:  1971
;      RELEVANT RESIDUES IN SEQ ID NO:  1: FROM 1 TO 10
US-08-343-883-1


  Query Match             100.0%;  Score 63;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
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Db       1 EHWSYGLRPG 10


RESULT   5
US-08-000-931-5
; Sequence 5, Application US/08000931
; Patent No. 5578477
;  GENERAL INFORMATION:
;    APPLICANT:  Tamanoi Dr., Fuyuhiko
;    TITLE OF INVENTION:  IDENTIFICATION AND CHARACTERIZATION OF
;    TITLE OF INVENTION:  INHIBITORS OF PROTEIN FARNESYLTRANSFERASE
;    NUMBER OF SEQUENCES:  10
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Foley & Lardner
;      STREET:  3000 K Street, N.W., Suite 500
;      CITY:  Washington, D.C.
;      COUNTRY:  USA
;      ZIP:  20007-5109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/000,931
;      FILING DATE:  05-JAN-1994
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BENT, Stephen A.
;      REGISTRATION NUMBER:  29,768
;      REFERENCE/DOCKET NUMBER:  64098/102/ARDE
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (202)672-5300
;      TELEFAX:  (202)672-5399
;      TELEX:  904136
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-000-931-5


  Query Match             100.0%;  Score 63;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 EHWSYGLRPG 10
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Db       1 EHWSYGLRPG 10


RESULT   6
US-08-428-488-22
; Sequence 22, Application US/08428488
; Patent No. 5624894
;  GENERAL INFORMATION:
;    APPLICANT:  BODOR, Nicholas S.
;    TITLE OF INVENTION:  BRAIN-ENHANCED DELIVERY OF NEUROACTIVE
;    TITLE OF INVENTION:  PEPTIDES BY SEQUENTIAL METABOLISM
;    NUMBER OF SEQUENCES:  107
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Burns, Doane, Swecker & Mathis
;      STREET:  P.O. Box 1404
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/428,488
;      FILING DATE:  27-APR-1995
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Baumeister, Mary Katherine
;      REGISTRATION NUMBER:  26,254
;      REFERENCE/DOCKET NUMBER:  028724-087
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  22:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  1
;      OTHER INFORMATION:  /note= "Position 1 = p-Glu."
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  10
;      OTHER INFORMATION:  /note= "Position 10 = Gly-NH2."
US-08-428-488-22
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  Query Match           100.0%;  Score 63;  DB 1;  Length 10;
  Best Local Similarity  100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 EHWSYGLRPG 10


RESULT   7
US-08-341-219-11
; Sequence 11, Application US/08341219
; Patent No. 5643877
;  GENERAL INFORMATION:
;    APPLICANT:  Zohar, Y.
;    APPLICANT:  Rivier, J.
;    APPLICANT:  Powell, J.
;    APPLICANT:  Sherwood, N.
;    APPLICANT:  Gothilf, Y.
;    TITLE OF INVENTION:  Compounds and Methods For Controlling
;    TITLE OF INVENTION:  Reproduction in Fish
;    NUMBER OF SEQUENCES:  26
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Pennie & Edmonds
;      STREET:  1155 Avenue of the Americas
;      CITY:  New York
;      STATE:  N.Y.
;      COUNTRY:  USA
;      ZIP:  10036-2711
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/341,219
;      FILING DATE:  05-DEC-1994
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Coruzzi,, Laura A.
;      REGISTRATION NUMBER:  30742
;      REFERENCE/DOCKET NUMBER:  8399-003-999
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (212) 790-9090
;      TELEFAX:  (212) 869-8864/9741
;  INFORMATION FOR SEQ ID NO:  11:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  not relevant
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
;    HYPOTHETICAL:  NO
;    ANTI-SENSE:  NO
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  1
;      OTHER INFORMATION:  /product= "OTHER"
;      OTHER INFORMATION:  /label= Glu1
;      OTHER INFORMATION:  /note= "=pyroglutamic acid"
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  10
;      OTHER INFORMATION:  /product= "OTHER"
;      OTHER INFORMATION:  /label= Gly10
;      OTHER INFORMATION:  /note= "amidated"
US-08-341-219-11


  Query Match           100.0%;  Score 63;  DB 1;  Length 10;
  Best Local Similarity  100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 EHWSYGLRPG 10


RESULT   8
US-08-453-588-22
; Sequence 22, Application US/08453588
; Patent No. 5684145
;  GENERAL INFORMATION:
;    APPLICANT:  Anna van der Zee, Irma Marianne van Die,
;    APPLICANT:  Willem Pieter Martin Hoekstra,
;    APPLICANT:  Josephus Theodorus Gielen.
;    TITLE OF INVENTION:  Carrier system against GnRH
;    NUMBER OF SEQUENCES:  30
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Akzo No. 5684145el Patent Department
;      STREET:  1300 Piccard Drive, Suite 206
;      CITY:  Rockville
;      STATE:  Maryland
;      COUNTRY:  U.S.A.
;      ZIP:  20850
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/453,588
;      FILING DATE:  30-MAY-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/078,661
;      FILING DATE:  16-JUN-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mary E. Gormley
;      REGISTRATION NUMBER:  34,409
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (301) 258-5200
;  INFORMATION FOR SEQ ID NO:  22:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Glu at position 1 is pyroglutamic acid
US-08-453-588-22


  Query Match           100.0%;  Score 63;  DB 1;  Length 10;
  Best Local Similarity  100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
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Db      1 EHWSYGLRPG 10


RESULT   9
US-08-591-917-1
; Sequence 1, Application US/08591917
; Patent No. 5707964
;  GENERAL INFORMATION:
;    APPLICANT:  Nett, Torrance M
;    APPLICANT:  Glode, Leonard Michael
;    TITLE OF INVENTION:  A METHOD FOR TREATING CANCER
;    NUMBER OF SEQUENCES:  3
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Sheridan Ross & McIntosh
;      STREET:  1700 Lincoln Street, Suite 3500
;      CITY:  Denver
;      STATE:  Colorado
```

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;      COUNTRY:  USA
;      ZIP:  80203
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/591,917
;      FILING DATE:  26-JAN-1996
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Kovarik, Joseph E.
;      REGISTRATION NUMBER:  33,005
;      REFERENCE/DOCKET NUMBER:  2730-3-2-1-1
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (303) 863-9700
;      TELEFAX:  (303) 863-0223
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-591-917-1


  Query Match             100.0%;  Score 63;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 EHWSYGLRPG 10


RESULT  10
US-08-446-692-1
; Sequence 1, Application US/08446692
; Patent No. 5759551
;  GENERAL INFORMATION:
;    APPLICANT:  Ladd, Anna
;    APPLICANT:  Wang, Chang Yi
;    APPLICANT:  Zamb, Timothy
;    TITLE OF INVENTION:  Immunogenic LHRH peptide constructs
;    TITLE OF INVENTION:  and synthetic universal immune stimulators for vaccines
;    NUMBER OF SEQUENCES:  114
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Maria C.H. Lin
;      STREET:  345 Park Avenue
;      CITY:  New York
;      STATE:  NY
;      COUNTRY:  US
;      ZIP:  10154-0053
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/446,692
;      FILING DATE:  7-JUN-1995
;      CLASSIFICATION:  424
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Maria C.H. Lin
;      REGISTRATION NUMBER:  29,323
;      REFERENCE/DOCKET NUMBER:  1151-4146 US2
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (212)415-8745
;      TELEFAX:  (516)751-6849
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-446-692-1


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  Best Local Similarity   100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
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Db      1 EHWSYGLRPG 10


RESULT  11
US-08-796-598-6
; Sequence 6, Application US/08796598
; Patent No. 5827659
;  GENERAL INFORMATION:
;    APPLICANT:  PATTERSON, DALE H.
;    APPLICANT:  TARR, GEORGE E.
;    TITLE OF INVENTION:  METHODS AND APPARATUS FOR SEQUENCING
;    TITLE OF INVENTION:  POLYMERS USING MASS SPECTROMETRY.
;    NUMBER OF SEQUENCES:  23
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Patent Administrator - Testa, Hurwitz &
;      ADDRESSEE:  Thibeault
;      STREET:  High Street Tower, 125 High Street
;      CITY:  Boston
;      STATE:  MA
;      COUNTRY:  USA
;      ZIP:  02110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/796,598
;      FILING DATE:  07-FEB-1997
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/446,055
;      FILING DATE:  19-MAY-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  FLYNN Esq., Kerry A.
;      REGISTRATION NUMBER:  33,693
;      REFERENCE/DOCKET NUMBER:  SYP-115
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 248-7000
;      TELEFAX:  (617) 248-7100
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-796-598-6


  Query Match             100.0%;  Score 63;  DB 2;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
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Db      1 EHWSYGLRPG 10


RESULT  12
US-08-694-865-18
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; Sequence 18, Application US/08694865
; Patent No. 5837268
;  GENERAL INFORMATION:
;    APPLICANT:  POTTER, ANDREW A.
;    APPLICANT:  MANNS, JOHN G.
;    TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  REED & ROBINS LLP
;      STREET:  285 HAMILTON AVENUE, SUITE 200
;      CITY:  PALO ALTO
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  94301
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/694,865
;      FILING DATE:  09-AUG-1996
;      CLASSIFICATION:  424
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  MCCRACKEN, THOMAS P.
;      REGISTRATION NUMBER:  38,548
;      REFERENCE/DOCKET NUMBER:  9001-0016.22
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415)327-3400
;      TELEFAX:  (415)327-3231
;  INFORMATION FOR SEQ ID NO:  18:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  1
;      OTHER INFORMATION:  /note= "This position is pyroGlu."
US-08-694-865-18


  Query Match             100.0%;  Score 63;  DB 2;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
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Db      1 EHWSYGLRPG 10


RESULT  13
US-08-488-351A-1
; Sequence 1, Application US/08488351A
; Patent No. 5843446
;  GENERAL INFORMATION:
;    APPLICANT:  Ladd, Anna
;    APPLICANT:  Wang, Chang Yi
;    APPLICANT:  Zamb, Timothy
;    TITLE OF INVENTION:  Immunogenic LHRH peptide constructs
;    TITLE OF INVENTION:  and synthetic universal immune stimulators for vaccines
;    NUMBER OF SEQUENCES:  114
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Maria C.H. Lin
;      STREET:  345 Park Avenue
;      CITY:  New York
;      STATE:  NY
;      COUNTRY:  US
;      ZIP:  10154-0053
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/488,351A
;      FILING DATE:  7-JUN-1995
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/446,692
;      FILING DATE:  7-JUN-1995
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/229,275
;      FILING DATE:  14-APR-1994
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/057,166
;      FILING DATE:  27-APR-1992
;      CLASSIFICATION:  424
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Maria C.H. Lin
;      REGISTRATION NUMBER:  29,323
;      REFERENCE/DOCKET NUMBER:  1151-4146 US2
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (212)415-8745
;      TELEFAX:  (516)751-6849
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-488-351A-1


  Query Match             100.0%;  Score 63;  DB 2;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 EHWSYGLRPG 10


RESULT  14
US-08-480-494B-1
; Sequence 1, Application US/08480494B
; Patent No. 5843901
;  GENERAL INFORMATION:
;    APPLICANT:  Roeske, Roger W.
;    TITLE OF INVENTION:  LHRH Antagonist Peptides
;    NUMBER OF SEQUENCES:  6
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  LAHIVE & COCKFIELD
;      STREET:  60 State Street, Suite 510
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02109-1875
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/480,494B
;      FILING DATE:  07-JUN-1995
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  DeConti, Giulio A.
;      REGISTRATION NUMBER:  31,503
;      REFERENCE/DOCKET NUMBER:  PPI-007
;    TELECOMMUNICATION INFORMATION:
```

```
;      TELEPHONE:  (617)227-7400
;      TELEFAX:  (617)227-5941
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-480-494B-1


  Query Match             100.0%;  Score 63;  DB 2;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 EHWSYGLRPG 10


RESULT  15
US-08-447-175A-6
; Sequence 6, Application US/08447175A
; Patent No. 5869240
;  GENERAL INFORMATION:
;    APPLICANT:  PATTERSON, DALE H.
;    TITLE OF INVENTION:  METHODS AND APPARATUS FOR SEQUENCING
;    TITLE OF INVENTION:  POLYMERS WITH A STATISTICAL CERTAINTY USING MASS
;    TITLE OF INVENTION:  SPECTROMETRY.
;    NUMBER OF SEQUENCES:  23
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Patent Administrator - Testa, Hurwitz &
;      ADDRESSEE:  Thibeault, LLP
;      STREET:  High Street Tower, 125 High Street
;      CITY:  Boston
;      STATE:  MA
;      COUNTRY:  USA
;      ZIP:  02110
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/447,175A
;      FILING DATE:  19-MAY-1995
;      CLASSIFICATION:  422
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  RAUSCHENBACH, Kurt
;      REGISTRATION NUMBER:  40,137
;      REFERENCE/DOCKET NUMBER:  SYP-114
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 248-7000
;      TELEFAX:  (617) 248-7100
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-447-175A-6


  Query Match             100.0%;  Score 63;  DB 2;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 7e-05;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 EHWSYGLRPG 10
          ||||||||||
Db      1 EHWSYGLRPG 10
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Search completed: March 13, 2002, 08:48:13
Job time: 141 sec

GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 08:47:08 ; Search time 62.59 Seconds
(without alignments)
10.953 Million cell updates/sec

Title: US-09-462-089-2
Perfect score: 58
Sequence: 1 HWSYGLRPG 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 219241 seqs, 76174552 residues

Total number of hits satisfying chosen parameters: 219241

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_68:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	58	100.0	10	1	RHPGG	gonadoliberin - pi
2	58	100.0	10	1	RHSHG	gonadoliberin - sh
3	58	100.0	67	2	I78541	gonadoliberin prec
4	58	100.0	89	2	I51423	gonadoliberin prec
5	58	100.0	90	1	RHMSG	gonadoliberin prec
6	58	100.0	92	1	RHHUG	gonadoliberin prec
7	58	100.0	92	1	RHRTG	gonadoliberin prec
8	54	93.1	10	1	RHAQ1	gonadoliberin I -
9	54	93.1	92	2	I50644	gonadoliberin I pr
10	52	89.7	98	2	I50739	gonadotropin-relea
11	48	82.8	80	1	RHID1S	gonadoliberin I pr
12	48	82.8	91	2	JC7393	medaka-type gonado
13	45	77.6	10	2	A21114	gonadoliberin - ch
14	45	77.6	74	2	I51092	gonadotropin relea
15	45	77.6	82	2	I51180	gonadotropin-relea
16	45	77.6	82	2	I51355	gonadotropin relea
17	45	77.6	82	2	I51365	gonadotropin-relea
18	45	77.6	82	2	I51331	gonadotropin relea
19	45	77.6	90	2	JC7395	salmon-type gonado
20	45	77.6	90	2	A23735	gonadoliberin prec
21	45	77.6	90	2	I51095	gonadoliberin prec
22	41	70.7	316	2	A53440	aldose reductase h
23	40	69.0	10	1	RHAQ2	gonadoliberin II -
24	40	69.0	10	1	A61126	gonadoliberin - sp
25	40	69.0	10	2	A46030	gonadoliberin I -
26	40	69.0	10	2	B46030	gonadoliberin II -
27	40	69.0	80	2	JC7394	chicken-II-type go
28	40	69.0	85	2	A53453	gonadoliberin II p
29	40	69.0	86	1	RHID2S	gonadoliberin II p
30	40	69.0	532	2	T32849	hypothetical prote
31	40	69.0	551	2	E64728	yabN protein - Esc
32	40	69.0	552	2	B85489	probable transport
33	40	69.0	565	2	G82443	conserved hypothet
34	39	67.2	388	2	C72710	probable fmu prote
35	39	67.2	508	2	T01937	hypothetical prote
36	39	67.2	1444	2	T18856	angiogenesis inhib
37	38	65.5	161	2	D84472	hypothetical prote
38	38	65.5	293	2	G72699	hypothetical prote
39	38	65.5	501	2	T32848	hypothetical prote
40	37.5	64.7	364	2	B83078	probable D-amino a
41	37	63.8	10	2	A49187	gonadotropin-relea
42	37	63.8	80	2	S39779	aldehyde reductase
43	37	63.8	315	1	A35452	aldehyde reductase
44	37	63.8	316	1	A39763	aldehyde reductase
45	37	63.8	316	1	A60603	aldehyde reductase

ALIGNMENTS

RESULT 1
RHPGG
gonadoliberin - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 13-Jul-1981 #sequence_revision 13-Jul-1981 #text_change 18-Mar-1997
C;Accession: A01411
R;Baba, Y.; Matsuo, H.; Schally, A.V.
Biochem. Biophys. Res. Commun. 44, 459-463, 1971
A;Title: Structure of the porcine LH- and FSH-releasing hormone. II. Confirmation of
A;Reference number: A90172; MUID:72114303
A;Accession: A01411
A;Molecule type: protein
A;Residues: 1-10 <BAB>
R;Matsuo, H.; Arimura, A.; Nair, R.M.G.; Schally, A.V.
Biochem. Biophys. Res. Commun. 45, 822-827, 1971
A;Title: Synthesis of the porcine LH- and FSH-releasing hormone by the solid-phase me
A;Reference number: A90176; MUID:72065376
A;Contents: annotation; synthesis
A;Note: the synthetic and natural hormones have the same physicochemical and biologic
R;Baba, Y.; Arimura, A.; Schally, A.V.
Biochem. Biophys. Res. Commun. 45, 483-487, 1971
A;Title: On the tryptophan residue in porcine LH and FSH-releasing hormone.
A;Reference number: A90175; MUID:72117544
A;Contents: annotation
A;Note: Trp-3 appears to be essential for biological activity
C;Comment: This hypothalamic hormone stimulates the secretion of both luteinizing and
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 100.0%; Score 58; DB 1; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.00029;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 HWSYGLRPG 10
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RESULT 2
RHSHG
gonadoliberin - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 18-Mar-1997
C;Accession: A93780; A01411
R;Burgus, R.; Butcher, M.; Amoss, M.; Ling, N.; Monahan, M.; Rivier, J.; Fellows, R.;
Proc. Natl. Acad. Sci. U.S.A. 69, 278-282, 1972
A;Title: Primary structure of the ovine hypothalamic luteinizing hormone-releasing fa
A;Reference number: A93780; MUID:72094314
A;Accession: A93780

A;Molecule type: protein
A;Residues: 1-10 <BUR>
A;Note: the natural and synthetic hormones have the same biological activity
C;Comment: This hypothalamic hormone stimulates the secretion of both luteinizing and fo
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 100.0%; Score 58; DB 1; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.00029;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HWSYGLRPG 9
|||||||||
Db 2 HWSYGLRPG 10

RESULT 3
I78541
gonadoliberin precursor - rhesus macaque (fragment)
N;Alternate names: luteinizing hormone releasing hormone
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
C;Accession: I78541
R;Ma, Y.J.; Costa, M.E.; Ojeda, S.R.
Neuroendocrinology 60, 346-359, 1994
A;Title: Developmental expression of the genes encoding transforming growth factor alpha
A;Reference number: I58134; MUID:95124501
A;Accession: I78541
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-67 <RES>
A;Cross-references: GB:S75918; NID:g912831; PIDN:AAB33096.1; PID:g912832
C;Superfamily: gonadoliberin

Query Match 100.0%; Score 58; DB 2; Length 67;
Best Local Similarity 100.0%; Pred. No. 0.0022;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HWSYGLRPG 9
|||||||||
Db 7 HWSYGLRPG 15

RESULT 4
I51423
gonadoliberin precursor - African clawed frog
N;Alternate names: luteinizing hormone releasing hormone
C;Species: Xenopus laevis (African clawed frog)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C;Accession: I51423
R;Hayes, W.P.; Wray, S.; Battey, J.F.
Endocrinology 134, 1835-1845, 1994
A;Title: The frog GnRH-I gene has a mammalian-like expression pattern and conserved doma
A;Reference number: I51423; MUID:94185563
A;Accession: I51423
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-89 <HAY>
A;Cross-references: GB:L28040; NID:g496291; PIDN:AAA49728.1; PID:g496292
C;Genetics:
A;Gene: GnRH-I
C;Superfamily: gonadoliberin

Query Match 100.0%; Score 58; DB 2; Length 89;
Best Local Similarity 100.0%; Pred. No. 0.0029;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HWSYGLRPG 9
|||||||||
Db 25 HWSYGLRPG 33

RESULT 5
RHMSG
gonadoliberin precursor - mouse
N;Alternate names: gonadotropin-releasing hormone (GnRH); luteinizing hormone releasi
N;Contains: gonadoliberin; gonadoliberin-associated protein (GAP)
C;Species: Mus musculus (house mouse)
C;Date: 31-Dec-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
C;Accession: A47578
R;Mason, A.J.; Hayflick, J.S.; Zoeller, R.T.; Young III, W.S.; Phillips, H.S.; Nikoli
Science 234, 1366-1371, 1986
A;Title: A deletion truncating the gonadotropin-releasing hormone gene is responsible
A;Reference number: A47578; MUID:87069928
A;Accession: A47578
A;Molecule type: DNA
A;Residues: 1-90 <MAS>
A;Cross-references: EMBL:M14872; NID:g193576; PIDN:AAA37717.1; PID:g387175
C;Genetics:
A;Introns: 45/3; 77/3
C;Function:
A;Description: gonadoliberin stimulates pituitary secretion of lutropin and follitrop
A;Note: gonadoliberin-associated protein may have prolactin release inhibiting activi
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1-23/Domain: signal sequence #status predicted <SIG>
F;22-31/Product: gonadoliberin #status predicted <GLB>
F;35-90/Product: gonadoliberin-associated protein #status predicted <GAP>
F;22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predic
F;31/Modified site: amidated carboxyl end (Gly) (amide in mature form from following

Query Match 100.0%; Score 58; DB 1; Length 90;
Best Local Similarity 100.0%; Pred. No. 0.003;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HWSYGLRPG 9
|||||||||
Db 23 HWSYGLRPG 31

RESULT 6
RHHUG
gonadoliberin precursor [validated] - human
N;Alternate names: gonadotropin releasing hormone (GnRH); luteinizing hormone releasi
N;Contains: gonadoliberin-associated protein (GAP); progonadoliberin
C;Species: Homo sapiens (man)
C;Date: 17-Mar-1987 #sequence_revision 21-Jul-1995 #text_change 08-Dec-2000
C;Accession: S05308; A26173; A93342; A90108; A01410; S45718
R;Hayflick, J.S.; Adelman, J.P.; Seeburg, P.H.
Nucleic Acids Res. 17, 6403-6404, 1989
A;Title: The complete nucleotide sequence of the human gonadotropin-releasing hormone
A;Reference number: S05308; MUID:89366682
A;Accession: S05308
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-92 <HAY>
A;Cross-references: EMBL:X15215; NID:g31955; PIDN:CAA33285.1; PID:g31956
R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H.
Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A;Title: Isolation of the gene and hypothalamic cDNA for the common precursor of gona
A;Reference number: A94090; MUID:86094338
A;Accession: A26173
A;Molecule type: mRNA
A;Residues: 1-92 <ADE>
A;Cross-references: GB:M12578; NID:g183418; PIDN:AAA35916.1; PID:g386749
A;Experimental source: hypothalamus
R;Seeburg, P.H.; Adelman, J.P.
Nature 311, 666-668, 1984
A;Title: Characterization of cDNA for precursor of human luteinizing hormone releasin
A;Reference number: A93342; MUID:85012739

A;Accession: A93342
A;Molecule type: mRNA
A;Residues: 1-15,'S',17-92 <SEE>
A;Cross-references: GB:X01059; NID:g34356; PIDN:CAA25526.1; PID:g34357
A;Experimental source: placenta
R;Tan, L.; Rousseau, P.
Biochem. Biophys. Res. Commun. 109, 1061-1071, 1982
A;Title: The chemical identity of the immunoreactive LHRH-like peptide biosynthesized ir
A;Reference number: A90108; MUID:83126573
A;Accession: A90108
A;Molecule type: protein
A;Residues: 24-33 <TAN>
A;Experimental source: placental trophoblasts
R;Leibovitz, D.; Koch, Y.; Pitzer, F.; Fridkin, M.; Dantes, A.; Baumeister, W.; Amsterda
FEBS Lett. 346, 203-206, 1994
A;Title: Sequential degradation of the neuropeptide gonadotropin-releasing hormone by th
A;Reference number: S45718; MUID:94283597
A;Contents: annotation; degradation pathway of synthetic hormone
C;Genetics:
A;Gene: GDB:GNRH; LHRH; GRH
A;Cross-references: GDB:133746; OMIM:227200; OMIM:152760
A;Map position: 8p21-8p11.2
A;Introns: 47/3; 79/3
C;Function:
A;Description: gonadoliberin stimulates pituitary secretion of lutropin and follitropin
A;Note: gonadoliberin-associated protein may have prolactin release inhibiting activiy
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-92/Product: progonadoliberin #status predicted <PGN>
F;24-33/Product: gonadoliberin #status experimental <MAT>
F;37-92/Product: gonadoliberin-associated protein #status predicted <GAP>
F;24/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimer
F;33/Modified site: amidated carboxyl end (Gly) (amide in mature form from following gly

Query Match 100.0%; Score 58; DB 1; Length 92;
Best Local Similarity 100.0%; Pred. No. 0.003;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 HWSYGLRPG 9
          |||||||||
Db     25 HWSYGLRPG 33
```

RESULT 7
RHRTG
gonadoliberin precursor - rat
N;Alternate names: gonadoliberin-associated protein (GAP); gonadotropin releasing hormo
N;Contains: gonadoliberin; prolactin release-inhibiting factor
C;Species: Rattus norvegicus (Norway rat)
C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 18-Jun-1999
C;Accession: A40147; B26173; A48410
R;Bond, C.T.; Hayflick, J.S.; Seeburg, P.H.; Adelman, J.P.
Mol. Endocrinol. 3, 1257-1262, 1989
A;Title: The rat gonadotropin-releasing hormone: SH locus: structure and hypothalamic ex
A;Reference number: A40147; MUID:89384661
A;Accession: A40147
A;Molecule type: DNA
A;Residues: 1-92 <BON>
A;Cross-references: GB:M31670; NID:g204447; PIDN:AAA41264.1; PID:g204448
R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H.
Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A;Title: Isolation of the gene and hypothalamic cDNA for the common precursor of gonadot
A;Reference number: A94090; MUID:86094338
A;Accession: B26173
A;Molecule type: mRNA
A;Residues: 1-92 <ADE>
A;Cross-references: GB:M12579; NID:g204445; PIDN:AAA41263.1; PID:g204446
R;Maier, C.C.; Marchetti, B.; LeBoeuf, R.D.; Blalock, J.E.
Cell. Mol. Neurobiol. 12, 447-454, 1992
A;Title: Thymocytes express a mRNA that is identical to hypothalamic luteinizing hormone
A;Reference number: A48410; MUID:93105480

A;Accession: A48410
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-92 <MAI>
A;Cross-references: GB:S50870; NID:g262059; PIDN:AAB24572.1; PID:g262060
A;Experimental source: thymus
A;Note: sequence extracted from NCBI backbone (NCBIN:121082, NCBIP:121083)
C;Genetics:
A;Introns: 47/3; 79/3
C;Function:
A;Description: stimulates pituitary secretion of lutropin and follitropin
A;Note: gonadoliberin-associated protein may have prolactin release inhibiting activi
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-92/Product: progonadoliberin #status predicted <PGN>
F;24-33/Product: gonadoliberin #status predicted <GLN>
F;37-92/Product: prolactin release-inhibiting factor #status predicted <PIF>
F;24/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predic
F;33/Modified site: amidated carboxyl end (Gly) (amide in mature form from following

Query Match 100.0%; Score 58; DB 1; Length 92;
Best Local Similarity 100.0%; Pred. No. 0.003;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 HWSYGLRPG 9
          |||||||||
Db     25 HWSYGLRPG 33
```

RESULT 8
RHAQ1
gonadoliberin I - American alligator
N;Alternate names: gonadotropin-releasing hormone I
C;Species: Alligator mississippiensis (American alligator)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 18-Mar-1997
C;Accession: A60066
R;Lovejoy, D.A.; Fischer, W.H.; Parker, D.B.; McRory, J.E.; Park, M.; Lance, V.; Swan
Regul. Pept. 33, 105-116, 1991
A;Title: Primary structure of two forms of gonadotropin-releasing hormone from brains
A;Reference number: A60066; MUID:91352338
A;Accession: A60066
A;Molecule type: protein
A;Residues: 1-10 <LOV>
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 93.1%; Score 54; DB 1; Length 10;
Best Local Similarity 88.9%; Pred. No. 0.0014;
Matches 8; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 HWSYGLRPG 9
          ||||||:||
Db      2 HWSYGLQPG 10
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RESULT 9
I50644
gonadoliberin I precursor - chicken
N;Alternate names: gonadotropin-releasing hormone I
C;Species: Gallus gallus (chicken)
C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 16-Jul-1999
C;Accession: I50644; S33507
R;Dunn, I.C.; Chen, Y.; Hook, C.; Sharp, P.J.; Sang, H.M.
J. Mol. Endocrinol. 11, 19-29, 1993
A;Title: Characterization of the chicken preprogonadotrophin-releasing hormone-I gene
A;Reference number: I50644; MUID:94059355
A;Accession: I50644
A;Status: translated from GB/EMBL/DDBJ

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A;Molecule type: DNA
A;Residues: 1-92 <DU2>
A;Cross-references: EMBL:X69491; NID:g496326; PIDN:CAA49246.1; PID:g311612
C;Genetics:
A;Introns: 47/3; 79/3
C;Superfamily: gonadoliberin


  Query Match             93.1%;  Score 54;  DB 2;  Length 92;
  Best Local Similarity   88.9%;  Pred. No. 0.015;
  Matches    8;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
            |||||||:||
Db      25 HWSYGLQPG 33


RESULT  10
I50739
gonadotropin-releasing hormone - Cichlid (Haplochromis burtoni)
C;Species: Haplochromis burtoni
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C;Accession: I50739
R;White, S.A.; Kasten, T.L.; Bond, C.T.; Adelman, J.P.; Fernald, R.D.
Proc. Natl. Acad. Sci. U.S.A. 92, 8363-8367, 1995
A;Title: Three gonadotropin-releasing hormone genes in one organism suggest novel roles
A;Reference number: I50739; MUID:95396797
A;Accession: I50739
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-98 <WHI>
A;Cross-references: EMBL:U31865; NID:g905398; PIDN:AAC59691.1; PID:g905399
C;Superfamily: gonadoliberin


  Query Match             89.7%;  Score 52;  DB 2;  Length 98;
  Best Local Similarity   88.9%;  Pred. No. 0.035;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
            |||||| ||
Db      24 HWSYGLSPG 32


RESULT  11
RHID1S
gonadoliberin I precursor - sharptooth catfish
N;Alternate names: gonadoliberin, catfish-type; gonadotropin-releasing hormone I (GnRH-I
N;Contains: gonadoliberin I; gonadoliberin I-associated protein form I; gonadoliberin I-
C;Species: Clarias gariepinus (sharptooth catfish)
C;Date: 30-Sep-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
C;Accession: S45602; S45601; JC1242; S42936; S42937
R;Bogerd, J.; Zandbergen, T.; Andersson, E.; Goos, H.
Eur. J. Biochem. 222, 541-549, 1994
A;Title: Isolation, characterization and expression of cDNAs encoding the catfish-type a
A;Reference number: S45600; MUID:94291651
A;Accession: S45602
A;Molecule type: mRNA
A;Residues: 1-80 <BOG1>
A;Cross-references: EMBL:X78049; NID:g459433; PIDN:CAA54971.1; PID:g459434
A;Note: gonadoliberin I-associated protein form I
A;Accession: S45601
A;Molecule type: mRNA
A;Residues: 1-46,'S',48-59,'G',61-80 <BOG2>
A;Cross-references: EMBL:X78048; NID:g459431; PIDN:CAA54970.1; PID:g459432
A;Note: gonadoliberin I-associated protein form II, presumed to be a polymorphic form
R;Bogerd, J.; Li, K.W.; Janssen-Dommerholt, C.; Goos, H.
Biochem. Biophys. Res. Commun. 187, 127-134, 1992
A;Title: Two gonadotropin-releasing hormones from African catfish (Clarias gariepinus)
A;Reference number: JC1242; MUID:92392313
A;Accession: JC1242
A;Molecule type: protein
A;Residues: 22-31 <BOG3>
A;Experimental source: brain
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-31/Product: gonadoliberin I #status experimental <MAT1>
F;35-80/Product: gonadoliberin I-associated protein #status predicted <MAT2>
F;22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experi
F;31/Modified site: amidated carboxyl end (Gly) (amide in mature form from following


  Query Match             82.8%;  Score 48;  DB 1;  Length 80;
  Best Local Similarity   77.8%;  Pred. No. 0.14;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
            |||:|| ||
Db      23 HWSHGLNPG 31


RESULT  12
JC7393
medaka-type gonadotropin-releasing hormone precursor - Japanese medaka
C;Species: Oryzias latipes (Japanese medaka)
C;Date: 17-Nov-2000 #sequence_revision 17-Nov-2000 #text_change 17-Nov-2000
C;Accession: JC7393
R;Okubo, K.; Amano, M.; Yoshiura, Y.; Suetake, H.; Aida, K.
Biochem. Biophys. Res. Commun. 276, 298-303, 2000
A;Title: A novel form of gonadotropin-releasing hormone in the medaka, Oryzias latipe
A;Reference number: JC7393
A;Contents: Brain
A;Accession: JC7393
A;Molecule type: mRNA
A;Residues: 1-91 <OKU>
A;Cross-references: DDBJ:AB041333
C;Comment: This protein plays the roles as a hypophysiotropic factor, and a physiolog
C;Genetics:
A;Gene: mdgnrh
C;Keywords: brain


  Query Match             82.8%;  Score 48;  DB 2;  Length 91;
  Best Local Similarity   77.8%;  Pred. No. 0.16;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
            |||:|| ||
Db      23 HWSFGLSPG 31


RESULT  13
A21114
gonadoliberin - chum salmon
C;Species: Oncorhynchus keta (chum salmon)
C;Date: 10-Aug-1990 #sequence_revision 10-Aug-1990 #text_change 18-Jun-1993
C;Accession: A21114
R;Sherwood, N.; Eiden, L.; Brownstein, M.; Spiess, J.; Rivier, J.; Vale, W.
Proc. Natl. Acad. Sci. U.S.A. 80, 2794-2798, 1983
A;Title: Characterization of a teleost gonadotropin-releasing hormone.
A;Reference number: A21114; MUID:83195140
A;Accession: A21114
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-10 <SHE>


  Query Match             77.6%;  Score 45;  DB 2;  Length 10;
  Best Local Similarity   77.8%;  Pred. No. 0.053;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
            |||||  ||
Db       2 HWSYGWLPG 10
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RESULT 14
I51092
gonadotropin releasing hormone - chinook salmon (fragment)
C;Species: Oncorhynchus tschawytscha (chinook salmon)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Aug-1997
C;Accession: I51092
R;Klungland, H.; Lorens, J.B.; Andersen, O.; Kisen, G.O.; Alestrom, P.
Mol. Cell. Endocrinol. 84, 167-174, 1992
A;Title: The Atlantic salmon prepro-gonadotropin releasing hormone gene and mRNA.
A;Reference number: I51040; MUID:92267241
A;Accession: I51092
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-74 <KLU>
A;Cross-references: EMBL:X79711; NID:g499322; PID:g499323
C;Genetics:
A;Gene: GnRH
A;Introns: 38/3; 65/3

Query Match 77.6%; Score 45; DB 2; Length 74;
Best Local Similarity 77.8%; Pred. No. 0.43;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 HWSYGLRPG 9
||||| ||
Db 17 HWSYGWLPG 25

RESULT 15
I51180
gonadotropin-releasing hormone - cherry salmon
C;Species: Oncorhynchus masou (cherry salmon)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Aug-1997
C;Accession: I51180
R;Suzuki, M.; Hyodo, S.; Kobayashi, M.; Aida, K.; Urano, A.
J. Mol. Endocrinol. 9, 73-82, 1992
A;Title: Characterization and localization of mRNA encoding the salmon-type gonadotrophi
A;Reference number: I51180; MUID:92384893
A;Accession: I51180
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-82 <SUZ>
A;Cross-references: GB:S44614; NID:g254824; PID:g254825

Query Match 77.6%; Score 45; DB 2; Length 82;
Best Local Similarity 77.8%; Pred. No. 0.48;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 HWSYGLRPG 9
||||| ||
Db 25 HWSYGWLPG 33

Search completed: March 13, 2002, 08:47:08
Job time: 76 sec

GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 09:05:41 ; Search time 74.71 Seconds
(without alignments)
4.417 Million cell updates/sec

Title: US-09-462-089-2
Perfect score: 58
Sequence: 1 HWSYGLRPG 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 100059 seqs, 36664827 residues

Total number of hits satisfying chosen parameters: 100059

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_39:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	58	100.0	61	1	GON1_SHEEP	Q28588 ovis aries
2	58	100.0	63	1	GON1_MESAU	O09163 mesocricetu
3	58	100.0	67	1	GON1_MACMU	P55247 macaca mula
4	58	100.0	89	1	GON1_XENLA	P45656 xenopus lae
5	58	100.0	90	1	GON1_MOUSE	P13562 mus musculu
6	58	100.0	91	1	GON1_PIG	P49921 sus scrofa
7	58	100.0	92	1	GON1_HUMAN	P01148 homo sapien
8	58	100.0	92	1	GON1_RAT	P07490 rattus norv
9	58	100.0	92	1	GON1_TUPGB	Q95335 tupaia glis
10	54	93.1	10	1	GON1_ALLMI	P37041 alligator m
11	54	93.1	92	1	GON1_CHICK	P37042 gallus gall
12	52	89.7	94	1	GON1_HAPBU	P51918 haplochromi
13	52	89.7	95	1	GON1_MORSA	O73812 morone saxa
14	52	89.7	95	1	GON1_PAGMA	P70074 pagrus majo
15	52	89.7	95	1	GON1_SPAAU	P51919 sparus aura
16	52	89.7	99	1	GON1_DICLA	Q9ia10 dicentrarch
17	49	84.5	92	1	GON1_CAVPO	O54713 cavia porce
18	48	82.8	80	1	GON1_CLAGA	P33439 clarias gar
19	47	81.0	10	1	GON1_CLUPA	P81749 clupea pall
20	45	77.6	10	1	GON3_ONCKE	P20367 oncorhynchu
21	45	77.6	74	1	GON3_ONCMY	P55246 oncorhynchu
22	45	77.6	74	1	GON3_ONCTS	Q92097 oncorhynchu
23	45	77.6	82	1	GON3_ONCMA	P30973 oncorhynchu
24	45	77.6	82	1	GON3_SALSA	P35629 salmo salar
25	45	77.6	82	1	GON3_SALTR	P45653 salmo trutt
26	45	77.6	89	1	GON3_PORNO	P51922 porichthys
27	45	77.6	90	1	GON3_DICLA	Q9ia09 dicentrarch
28	45	77.6	90	1	GON3_HAPBU	P45652 haplochromi
29	45	77.6	90	1	GON3_PAGMA	P51921 pagrus majo
30	45	77.6	90	1	GON3_SPAAU	P51923 sparus aura
31	45	77.6	94	1	GON3_CARAU	P51917 carassius a
32	45	77.6	94	1	GON3_RUTRU	Q92106 rutilus rut
33	41	70.7	110	1	YHBJ_ACTAC	P96769 actinobacil
34	41	70.7	315	1	ALD2_MOUSE	P45377 mus musculu
35	40	69.0	10	1	GON2_CHICK	P37043 gallus gall
36	40	69.0	10	1	GONL_SQUAC	P27429 squalus aca
37	40	69.0	85	1	GON2_DICLA	Q9ia08 dicentrarch
38	40	69.0	85	1	GON2_HAPBU	P37044 haplochromi
39	40	69.0	85	1	GON2_MORSA	O73811 morone saxa
40	40	69.0	85	1	GON2_SPAAU	P51925 sparus aura
41	40	69.0	86	1	GON2_CARAU	P51924 carassius a
42	40	69.0	86	1	GON2_CLAGA	P43306 clarias gar
43	40	69.0	86	1	GON2_ONCMY	O42241 oncorhynchu
44	40	69.0	86	1	GON2_RUTRU	Q91330 rutilus rut
45	40	69.0	110	1	GON2_SUNMU	O97686 suncus muri

ALIGNMENTS

RESULT 1
GON1_SHEEP
ID GON1_SHEEP STANDARD; PRT; 61 AA.
AC Q28588;
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I]
DE (FRAGMENT).
GN GNRH1 OR GNRH OR LHRH.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
RP SEQUENCE OF 12-61 FROM N.A.
RC STRAIN=WESTERN RANGE; TISSUE=Hypothalamus;
RA Rodriguez R.E., Wise M.E.;
RL Submitted (OCT-1993) to the EMBL/GenBank/DDBJ databases.
RN [2]
RP SEQUENCE OF 1-10.
RX MEDLINE=72094314; PubMed=4550508;
RA Burgus R., Butcher M., Amoss M., Ling N., Monahan M., Rivier J.,
RA Fellows R., Blackwell R., Vale W., Guillemin R.;
RT "Primary structure of the ovine hypothalamic luteinizing hormone-
RT releasing factor (LRF) (LH-hypothalamus-LRF-gas chromatography-mass
RT spectrometry-decapeptide-Edman degradation).";
RL Proc. Natl. Acad. Sci. U.S.A. 69:278-282(1972).
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC HORMONES.
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC ---

CC ---
DR EMBL; U02517; AAA03433.1; -.
DR PIR; A93780; RHSHG.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Placenta.
FT NON_TER 1 1
FT CHAIN 1 >61 PROGONADOLIBERIN I.
FT PEPTIDE 1 10 GONADOLIBERIN I.
FT PEPTIDE 14 >61 GNRH-ASSOCIATED PEPTIDE I.
FT ACT_SITE 3 3 APPEARS TO BE ESSENTIAL FOR BIOLOGICAL

```
FT                                ACTIVITY.
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      10     10       AMIDATION (G-11 PROVIDE AMIDE GROUP).
FT   NON_TER      61     61
SQ   SEQUENCE   61 AA;  6828 MW;  63962A1AE319B8F0 CRC64;


  Query Match             100.0%;  Score 58;  DB 1;  Length 61;
  Best Local Similarity   100.0%;  Pred. No. 0.00048;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 HWSYGLRPG 10


RESULT   2
GON1_MESAU
ID   GON1_MESAU     STANDARD;      PRT;     63 AA.
AC   O09163;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I]
DE   (FRAGMENT).
GN   GNRH1 OR GNRH OR LHRH.
OS   Mesocricetus auratus (Golden hamster).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC   Mesocricetus.
OX   NCBI_TaxID=10036;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Jansen H.T., Stevens P.J., Zeitler P., Lehman M.N.;
RL   Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U91938; AAB51302.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta.
FT   NON_TER       1      1
FT   CHAIN         1    >63       PROGONADOLIBERIN I.
FT   PEPTIDE       1     10       GONADOLIBERIN I.
FT   PEPTIDE      14    >63       GNRH-ASSOCIATED PEPTIDE I (BY
FT                                SIMILARITY).
FT   ACT_SITE      3      3       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY (BY SIMILARITY).
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      10     10       AMIDATION (G-11 PROVIDE AMIDE GROUP) (BY
FT                                SIMILARITY).
FT   NON_TER      63     63
SQ   SEQUENCE   63 AA;  7370 MW;  FC94995676F77180 CRC64;


  Query Match             100.0%;  Score 58;  DB 1;  Length 63;
  Best Local Similarity   100.0%;  Pred. No. 0.0005;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 HWSYGLRPG 10


RESULT   3
GON1_MACMU
ID   GON1_MACMU     STANDARD;      PRT;     67 AA.
AC   P55247;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I]
DE   (FRAGMENT).
GN   GNRH1 OR GNRH OR LHRH.
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
OC   Cercopithecinae; Macaca.
OX   NCBI_TaxID=9544;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Hypothalamus;
RX   MEDLINE=95124501; PubMed=7545971;
RA   Ma Y.J., Costa M.E., Ojeda S.R.;
RT   "Developmental expression of the genes encoding transforming growth
RT   factor alpha and its receptor in the hypothalamus of female rhesus
RT   macaques.";
RL   Neuroendocrinology 60:346-359(1994).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; S75918; AAB33096.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1      5       BY SIMILARITY.
FT   CHAIN         6    >67       PROGONADOLIBERIN I.
FT   PEPTIDE       6     15       GONADOLIBERIN I.
FT   PEPTIDE      19    >67       GNRH-ASSOCIATED PEPTIDE I.
FT   ACT_SITE      8      8       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY (BY SIMILARITY).
FT   MOD_RES       6      6       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      15     15       AMIDATION (G-16 PROVIDE AMIDE GROUP) (BY
FT                                SIMILARITY).
FT   NON_TER      67     67
SQ   SEQUENCE   67 AA;  7573 MW;  505394DAA261A3F2 CRC64;


  Query Match             100.0%;  Score 58;  DB 1;  Length 67;
  Best Local Similarity   100.0%;  Pred. No. 0.00053;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
```

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Db      7 HWSYGLRPG 15


RESULT   4
GON1_XENLA
ID   GON1_XENLA     STANDARD;      PRT;    89 AA.
AC   P45656;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH) (LULIBERIN I).
OS   Xenopus laevis (African clawed frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
OC   Xenopodinae; Xenopus.
OX   NCBI_TaxID=8355;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Forebrain;
RX   MEDLINE=94185563; PubMed=8137750;
RA   Hayes W.P., Wray S., Battey J.F.;
RT   "The frog gonadotropin-releasing hormone-I (GnRH-I) gene has a
RT   mammalian-like expression pattern and conserved domains in
RT   GnRH-associated peptide, but brain onset is delayed until
RT   metamorphosis.";
RL   Endocrinology 134:1835-1844(1994).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; L28040; AAA49728.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal.
FT   SIGNAL        1     23
FT   CHAIN        24     89       PROGONADOLIBERIN I.
FT   PEPTIDE      24     33       GONADOLIBERIN I.
FT   CHAIN        37     89       GONADOTROPIN-RELEASING HORMONE ASSOCIATED
FT                                PEPTIDE.
FT   PEPTIDE      37     85       GNRH-ASSOCIATED PEPTIDE I (GAP).
FT   MOD_RES      24     24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   89 AA;  10246 MW;  6F4F36FBAE0D4284 CRC64;


  Query Match             100.0%;  Score 58;  DB 1;  Length 89;
  Best Local Similarity   100.0%;  Pred. No. 0.0007;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db     25 HWSYGLRPG 33


RESULT   5
GON1_MOUSE
ID   GON1_MOUSE     STANDARD;      PRT;    90 AA.
AC   P13562;
DT   01-JAN-1990 (Rel. 13, Created)
DT   01-JAN-1990 (Rel. 13, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); PROLACTIN RELEASE-INHIBITING FACTOR
DE   I].
GN   GNRH1 OR GNRH.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=87069928; PubMed=3024317;
RA   Mason A.J., Hayflick J.S., Zoeller R.T., Young W.S. III,
RA   Phillips H.S., Nikolics K., Seeburg P.H.;
RT   "A deletion truncating the gonadotropin-releasing hormone gene is
RT   responsible for hypogonadism in the hpg mouse.";
RL   Science 234:1366-1371(1986).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M14872; AAA37717.1; -.
DR   MGD; MGI:95789; Gnrh.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Signal.
FT   SIGNAL        1     21
FT   CHAIN        22     90       PROGONADOLIBERIN I.
FT   PEPTIDE      22     31       GONADOLIBERIN I.
FT   PEPTIDE      35     90       PROLACTIN RELEASE-INHIBITING FACTOR I.
FT   ACT_SITE     24     24       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY.
FT   MOD_RES      22     22       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      31     31       AMIDATION (G-32 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   90 AA;  10337 MW;  1C0766FA4826E4D9 CRC64;


  Query Match             100.0%;  Score 58;  DB 1;  Length 90;
  Best Local Similarity   100.0%;  Pred. No. 0.00071;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db     23 HWSYGLRPG 31


RESULT   6
GON1_PIG
ID   GON1_PIG       STANDARD;      PRT;    91 AA.
AC   P49921;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
GN   GNRH1 OR GNRH.
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Hypothalamus;
```

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RA   Weesner G.D., Matteri R.L., Becker B.A.;
RL   Submitted (MAY-1994) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE OF 24-33.
RX   MEDLINE=72114303; PubMed=4946067;
RA   Baba Y., Matsuo H., Schally A.V.;
RT   "Structure of the porcine LH- and FSH-releasing hormone. II.
RT   Confirmation of the proposed structure by conventional sequential
RT   analyses.";
RL   Biochem. Biophys. Res. Commun. 44:459-463(1971).
RN   [3]
RP   SYNTHESIS OF GONADOLIBERIN.
RX   MEDLINE=72065376; PubMed=4942726;
RA   Matsuo H., Arimura A., Nair R.M.G., Schally A.V.;
RT   "Synthesis of the porcine LH- and FSH-releasing hormone by the solid-
RT   phase method.";
RL   Biochem. Biophys. Res. Commun. 45:822-827(1971).
RN   [4]
RP   SYNTHESIS OF GONADOLIBERIN.
RX   MEDLINE=72117544; PubMed=4946275;
RA   Baba Y., Arimura A., Schally A.V.;
RT   "On the tryptophan residue in porcine LH and FSH-releasing hormone.";
RL   Biochem. Biophys. Res. Commun. 45:483-487(1971).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; L32864; AAA31066.1; -.
DR   PIR; A01411; RHPGG.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Signal.
FT   SIGNAL       1     23
FT   CHAIN       24     91       PROGONADOLIBERIN I.
FT   PEPTIDE     24     33       GONADOLIBERIN I.
FT   PEPTIDE     34     91       GNRH-ASSOCIATED PEPTIDE I.
FT   ACT_SITE    26     26       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                               ACTIVITY.
FT   MOD_RES     24     24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES     33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   91 AA;  10090 MW;  8340474F32DDAA99 CRC64;


  Query Match             100.0%;  Score 58;  DB 1;  Length 91;
  Best Local Similarity   100.0%;  Pred. No. 0.00072;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
           |||||||||
Db      25 HWSYGLRPG 33


RESULT   7
GON1_HUMAN
ID   GON1_HUMAN     STANDARD;      PRT;    92 AA.
AC   P01148;
DT   21-JUL-1986 (Rel. 01, Created)
DT   01-APR-1988 (Rel. 07, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I) (GONADORELIN); GNRH-ASSOCIATED
DE   PEPTIDE I].
GN   GNRH1 OR GNRH OR LHRH.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89366682; PubMed=2671939;
RA   Hayflick J.S., Adelman J.P., Seeburg P.H.;
RT   "The complete nucleotide sequence of the human gonadotropin-releasing
RT   hormone gene.";
RL   Nucleic Acids Res. 17:6403-6403(1989).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86094338; PubMed=2867548;
RA   Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.;
RT   "Isolation of the gene and hypothalamic cDNA for the common precursor
RT   of gonadotropin-releasing hormone and prolactin release-inhibiting
RT   factor in human and rat.";
RL   Proc. Natl. Acad. Sci. U.S.A. 83:179-183(1986).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=85012739; PubMed=6090951;
RA   Seeburg P.H., Adelman J.P.;
RT   "Characterization of cDNA for precursor of human luteinizing hormone
RT   releasing hormone.";
RL   Nature 311:666-668(1984).
RN   [4]
RP   SEQUENCE OF 24-33.
RX   MEDLINE=83126573; PubMed=6760865;
RA   Tan L., Rousseau P.;
RT   "The chemical identity of the immunoreactive LHRH-like peptide
RT   biosynthesized in the human placenta.";
RL   Biochem. Biophys. Res. Commun. 109:1061-1071(1982).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- PHARMACEUTICAL: AVAILABLE UNDER THE NAMES FACTREL (AYERST LABS),
CC       LUTREPULSE OR LUTRELEF (FERRING PHARMACEUTICALS) AND RELISORM
CC       (SERONO).
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X01059; CAA25526.1; -.
DR   EMBL; M12578; AAA35916.1; -.
DR   EMBL; X15215; CAA33285.1; -.
DR   PIR; A01410; RHHUG.
DR   PIR; A26173; A26173.
DR   PIR; S05308; S05308.
DR   MIM; 152760; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Pharmaceutical; Signal.
FT   SIGNAL       1     23
FT   CHAIN       24     92       PROGONADOLIBERIN I.
FT   PEPTIDE     24     33       GONADOLIBERIN I.
FT   PEPTIDE     37     92       GNRH-ASSOCIATED PEPTIDE I.
FT   ACT_SITE    26     26       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                               ACTIVITY.
FT   MOD_RES     24     24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES     33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
FT   CONFLICT    16     16       W -> S (IN REF. 3).
SQ   SEQUENCE   92 AA;  10380 MW;  30A72221B076FA79 CRC64;
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  Query Match             100.0%;  Score 58;  DB 1;  Length 92;
  Best Local Similarity   100.0%;  Pred. No. 0.00073;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db     25 HWSYGLRPG 33


RESULT   8
GON1_RAT
ID   GON1_RAT       STANDARD;      PRT;    92 AA.
AC   P07490;
DT   01-APR-1988 (Rel. 07, Created)
DT   01-APR-1988 (Rel. 07, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); PROLACTIN RELEASE-INHIBITING FACTOR
DE   I].
GN   GNRH1 OR GNRH.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86094338; PubMed=2867548;
RA   Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.;
RT   "Isolation of the gene and hypothalamic cDNA for the common precursor
RT   of gonadotropin-releasing hormone and prolactin release-inhibiting
RT   factor in human and rat.";
RL   Proc. Natl. Acad. Sci. U.S.A. 83:179-183(1986).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89384661; PubMed=2476669;
RA   Bond C.T., Hayflick J.S., Seeburg P.H., Adelman J.P.;
RT   "The rat gonadotropin-releasing hormone: SH locus: structure and
RT   hypothalamic expression.";
RL   Mol. Endocrinol. 3:1257-1262(1989).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Thymus;
RX   MEDLINE=93105480; PubMed=1468115;
RA   Maier C.C., Marchetti B., Leboeuf R.D., Blalock J.E.;
RT   "Thymocytes express a mRNA that is identical to hypothalamic
RT   luteinizing hormone-releasing hormone mRNA.";
RL   Cell. Mol. Neurobiol. 12:447-454(1992).
RN   [4]
RP   SEQUENCE OF 1-47 FROM N.A.
RC   TISSUE=Heart;
RX   MEDLINE=87149087; PubMed=3547652;
RA   Adelman J.P., Bond C.T., Douglass J., Herbert E.;
RT   "Two mammalian genes transcribed from opposite strands of the same
RT   DNA locus.";
RL   Science 235:1514-1517(1987).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- TISSUE SPECIFICITY: CENTRAL NERVOUS SYSTEM.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; S50870; AAB24572.1; -.
DR   EMBL; M12579; AAA41263.1; -.
DR   EMBL; M31670; AAA41264.1; -.
DR   EMBL; M15527; AAA42141.1; ALT_SEQ.
DR   EMBL; M15529; AAA42139.1; -.
DR   EMBL; M15528; -; NOT_ANNOTATED_CDS.
DR   PIR; B26173; RHRTG.
DR   PIR; A48410; A48410.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Signal.
FT   SIGNAL        1     23
FT   CHAIN         24    92       PROGONADOLIBERIN I.
FT   PEPTIDE       24    33       GONADOLIBERIN I.
FT   PEPTIDE       37    92       PROLACTIN RELEASE-INHIBITING FACTOR I.
FT   ACT_SITE      26    26       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY.
FT   MOD_RES       24    24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES       33    33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   92 AA;  10500 MW;  494B5C64DA8A3EB3 CRC64;


  Query Match             100.0%;  Score 58;  DB 1;  Length 92;
  Best Local Similarity   100.0%;  Pred. No. 0.00073;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db     25 HWSYGLRPG 33


RESULT   9
GON1_TUPGB
ID   GON1_TUPGB     STANDARD;      PRT;    92 AA.
AC   Q95335;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
GN   GNRH1 OR GNRH.
OS   Tupaia glis belangeri (Common tree shrew).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Scandentia; Tupaiidae; Tupaia.
OX   NCBI_TaxID=9396;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Hypothalamus;
RX   MEDLINE=97079639; PubMed=8921350;
RA   Kasten T.L., White S.A., Norton T.T., Bond C.T., Adelman J.P.,
RA   Fernald R.D.;
RT   "Characterization of two new preproGnRH mRNAs in the tree shrew:
RT   first direct evidence for mesencephalic GnRH gene expression in a
RT   placental mammal.";
RL   Gen. Comp. Endocrinol. 104:7-19(1996).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U63326; AAB16837.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
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DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Signal.
FT   SIGNAL        1     23       BY SIMILARITY.
FT   CHAIN        24     92       PROGONADOLIBERIN I.
FT   PEPTIDE      24     33       GONADOLIBERIN I.
FT   PEPTIDE      37     92       GNRH-ASSOCIATED PEPTIDE I.
FT   ACT_SITE     26     26       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY.
FT   MOD_RES      24     24       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP) (BY
FT                                SIMILARITY).
SQ   SEQUENCE   92 AA;  10197 MW;  4FDBF2C58CF5F63B CRC64;


  Query Match             100.0%;  Score 58;  DB 1;  Length 92;
  Best Local Similarity   100.0%;  Pred. No. 0.00073;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db     25 HWSYGLRPG 33


RESULT  10
GON1_ALLMI
ID   GON1_ALLMI     STANDARD;      PRT;     10 AA.
AC   P37041; P20407;
DT   01-FEB-1991 (Rel. 17, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   15-DEC-1998 (Rel. 37, Last annotation update)
DE   GONADOLIBERIN I (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I) (LH-RH I)
DE   (LULIBERIN I).
OS   Alligator mississippiensis (American alligator).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Crocodylidae; Alligatorinae; Alligator.
OX   NCBI_TaxID=8496;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Brain;
RX   MEDLINE=91352338; PubMed=1882082;
RA   Lovejoy D.A., Fischer W.H., Parker D.B., McRory J.E., Park M.,
RA   Lance V., Swanson P., Rivier J.E., Sherwood N.M.;
RT   "Primary structure of two forms of gonadotropin-releasing hormone
RT   from brains of the American alligator (Alligator mississippiensis).";
RL   Regul. Pept. 33:105-116(1991).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR   PIR; A60066; RHAQ1.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Hormone; Amidation; Hypothalamus.
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      10     10       AMIDATION.
SQ   SEQUENCE   10 AA;  1172 MW;  284B23D7286B45A3 CRC64;


  Query Match             93.1%;  Score 54;  DB 1;  Length 10;
  Best Local Similarity   88.9%;  Pred. No. 0.00042;
  Matches    8;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          ||||||:||
Db      2 HWSYGLQPG 10


RESULT  11
GON1_CHICK
ID   GON1_CHICK     STANDARD;      PRT;     92 AA.
AC   P37042; P20407;
DT   01-FEB-1991 (Rel. 17, Created)
DT   01-JUN-1994 (Rel. 29, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=WHITE LEGHORN;
RX   MEDLINE=94059355; PubMed=7902095;
RA   Dunn I.C., Chen Y., Hook C., Sharp P.J., Sang H.M.;
RT   "Characterization of the chicken preprogonadotrophin-releasing
RT   hormone-I gene.";
RL   J. Mol. Endocrinol. 11:19-29(1993).
RN   [2]
RP   SEQUENCE OF 24-33.
RC   TISSUE=Hypothalamus;
RX   MEDLINE=82265778; PubMed=7050119;
RA   King J.A., Millar R.P.;
RT   "Structure of chicken hypothalamic luteinizing hormone-releasing
RT   hormone. II. Isolation and characterization.";
RL   J. Biol. Chem. 257:10729-10732(1982).
RN   [3]
RP   SEQUENCE OF 24-33.
RC   TISSUE=Hypothalamus;
RA   King J.A., Millar R.P.;
RT   "Structure of avian hypothalamic gonadotrophin-releasing hormone.";
RL   S. Afr. J. Sci. 78:124-125(1982).
RN   [4]
RP   SYNTHESIS OF 24-33.
RX   MEDLINE=82265777; PubMed=7050118;
RA   King J.A., Millar R.P.;
RT   "Structure of chicken hypothalamic luteinizing hormone-releasing
RT   hormone. I. Structural determination on partially purified
RT   material.";
RL   J. Biol. Chem. 257:10722-10728(1982).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ----------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; X69491; CAA49246.1; -.
DR   PIR; S33507; S33507.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal.
FT   SIGNAL        1     23
FT   CHAIN        24     92       PROGONADOLIBERIN I.
FT   PEPTIDE      24     33       GONADOLIBERIN I.
FT   PEPTIDE      37     92       GNRH-ASSOCIATED PEPTIDE I.
FT   MOD_RES      24     24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   92 AA;  10206 MW;  61AEB7EBAF508B6A CRC64;


  Query Match             93.1%;  Score 54;  DB 1;  Length 92;
  Best Local Similarity   88.9%;  Pred. No. 0.0038;
  Matches    8;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          ||||||:||
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Db      25 HWSYGLQPG 33


RESULT  12
GON1_HAPBU
ID   GON1_HAPBU     STANDARD;      PRT;    94 AA.
AC   P51918; O93387;
DT   01-OCT-1996 (Rel. 34, Created)
DT   30-MAY-2000 (Rel. 39, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH I) (LULIBERIN I).
GN   GNRH1.
OS   Haplochromis burtoni (Burton's mouthbrooder).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidei;
OC   Cichlidae; Astatotilapia.
OX   NCBI_TaxID=8153;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95396797; PubMed=7667296;
RA   White S.A., Kasten T.L., Bond C.T., Adelman J.P., Fernald R.D.;
RT   "Three gonadotropin-releasing hormone genes in one organism suggest
RT   novel roles for an ancient peptide.";
RL   Proc. Natl. Acad. Sci. U.S.A. 92:8363-8367(1995).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99061842; PubMed=9843638;
RA   White R.B., Fernald R.D.;
RT   "Ontogeny of gonadotropin-releasing hormone (GnRH) gene expression
RT   reveals a distinct origin for GnRH-containing neurons in the
RT   midbrain.";
RL   Gen. Comp. Endocrinol. 112:322-329(1998).
RN   [3]
RP   SEQUENCE OF 23-32.
RC   TISSUE=Pituitary;
RX   MEDLINE=95372591; PubMed=7644702;
RA   Powell J.F.F., Fischer W.H., Park M., Craig A.G., Rivier J.E.,
RA   White S.A., Francis R.C., Fernald R.D., Licht P., Warby C.,
RA   Sherwood N.M.;
RT   "Primary structure of solitary form of gonadotropin-releasing hormone
RT   (GnRH) in cichlid pituitary; three forms of GnRH in brain of cichlid
RT   and pumpkinseed fish.";
RL   Regul. Pept. 57:43-53(1995).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS. MAY BE
CC       RESPONSIBLE FOR THE REGULATION OF THE HYPOTHALAMIC-PITUITARY-
CC       GONADAL AXIS.
CC   -!- TISSUE SPECIFICITY: SYNTHESIZED IN PREOPTIC NEURONS AND IS
CC       TRANSPORTED TO THE PITUITARY IN THE PREOPTIC-HYPOPHYSEAL AXONS.
CC   -!- MASS SPECTROMETRY: MW=1113.9; METHOD=MALDI; RANGE=23-32.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U31865; AAC59691.1; -.
DR   EMBL; AF076961; AAC27716.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal; Multigene family.
FT   SIGNAL        1     22
FT   CHAIN        23     94       PROGONADOLIBERIN I.
FT   PEPTIDE      23     32       GONADOLIBERIN I.
FT   PEPTIDE      36     94       GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT   MOD_RES      23     23       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      32     32       AMIDATION (G-33 PROVIDE AMIDE GROUP).
FT   CONFLICT     86     94       ENGHRTFKK -> KMDTGHSRNERFL (IN REF. 1).
SQ   SEQUENCE   94 AA;  10382 MW;  E57DBA83333278D7 CRC64;


  Query Match             89.7%;  Score 52;  DB 1;  Length 94;
  Best Local Similarity   88.9%;  Pred. No. 0.009;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
           |||||| ||
Db      24 HWSYGLSPG 32


RESULT  13
GON1_MORSA
ID   GON1_MORSA     STANDARD;      PRT;    95 AA.
AC   O73812;
DT   20-AUG-2001 (Rel. 40, Created)
DT   20-AUG-2001 (Rel. 40, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH I) (LULIBERIN I).
GN   GNRH1.
OS   Morone saxatilis (Striped bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=34816;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Chow M.M., Kight K.E., Gothilf Y., Alok D., Zohar Y.;
RT   "Multiple GnRHs present in a teleost species are encoded by separate
RT   genes: analysis of the sbGnRH and cGnRH-II genes from the striped
RT   bass, Morone saxatilis.";
RL   Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AF056314; AAD03817.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal; Multigene family.
FT   SIGNAL        1     22       POTENTIAL.
FT   CHAIN        23     95       PROGONADOLIBERIN I.
FT   PEPTIDE      23     32       GONADOLIBERIN I.
FT   PEPTIDE      36     95       GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT   MOD_RES      23     23       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      32     32       AMIDATION (G-33 PROVIDE AMIDE GROUP)
FT                                (BY SIMILARITY).
SQ   SEQUENCE   95 AA;  10411 MW;  980C6988FC279BFC CRC64;


  Query Match             89.7%;  Score 52;  DB 1;  Length 95;
  Best Local Similarity   88.9%;  Pred. No. 0.0091;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
           |||||| ||
Db      24 HWSYGLSPG 32
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RESULT  14
GON1_PAGMA
ID   GON1_PAGMA     STANDARD;      PRT;    95 AA.
AC   P70074;
DT   15-JUL-1998 (Rel. 36, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH I) (LULIBERIN I).
GN   GNRH1.
OS   Pagrus major (Red sea bream) (Chrysophrys major).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Pagrus.
OX   NCBI_TaxID=143350;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Brain;
RA   Okuzawa K., Granneman J., Bogerd J., Goos H., Zohar Y., Kagawa H.;
RL   Submitted (SEP-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; D86582; BAA13129.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal; Multigene family.
FT   SIGNAL        1     23       POTENTIAL.
FT   CHAIN        24     95       PROGONADOLIBERIN I.
FT   PEPTIDE      24     33       GONADOLIBERIN I.
FT   PEPTIDE      37     95       GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT   MOD_RES      24     24       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP)
FT                                (BY SIMILARITY).
SQ   SEQUENCE   95 AA;  10566 MW;  61E79C990328D73E CRC64;


  Query Match             89.7%;  Score 52;  DB 1;  Length 95;
  Best Local Similarity   88.9%;  Pred. No. 0.0091;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
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Db      25 HWSYGLSPG 33


RESULT  15
GON1_SPAAU
ID   GON1_SPAAU     STANDARD;      PRT;    95 AA.
AC   P51919;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH I) (LULIBERIN I) (SBGNRH).
GN   GNRH1.
OS   Sparus aurata (Gilthead sea bream).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Sparus.
OX   NCBI_TaxID=8175;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Brain;
RX   MEDLINE=95268499; PubMed=7749463;
RA   Gothilf Y., Elizur A., Chow M., Chen T.T., Zohar Y.;
RT   "Molecular cloning and characterization of a novel gonadotropin-
RT   releasing hormone from the gilthead seabream (Sparus aurata).";
RL   Mol. Mar. Biol. Biotechnol. 4:27-35(1995).
RN   [2]
RP   SEQUENCE OF 26-35.
RC   TISSUE=Brain;
RX   MEDLINE=95083645; PubMed=7991588;
RA   Powell J.F.F., Zohar Y., Elizur A., Park M., Fischer W.H.,
RA   Craig A.G., Rivier J.E., Lovejoy D.A., Sherwood N.M.;
RT   "Three forms of gonadotropin-releasing hormone characterized from
RT   brains of one species.";
RL   Proc. Natl. Acad. Sci. U.S.A. 91:12081-12085(1994).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- MASS SPECTROMETRY: MW=1113.6; METHOD=MALDI; RANGE=26-35.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U30320; AAA75469.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal; Multigene family.
FT   SIGNAL        1     25
FT   CHAIN        26     95       PROGONADOLIBERIN I.
FT   PEPTIDE      26     35       GONADOLIBERIN I.
FT   PEPTIDE      39     95       GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT   MOD_RES      26     26       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      35     35       AMIDATION (G-36 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   95 AA;  10753 MW;  49313FD6FD6B87DA CRC64;


  Query Match             89.7%;  Score 52;  DB 1;  Length 95;
  Best Local Similarity   88.9%;  Pred. No. 0.0091;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
           |||||| ||
Db      27 HWSYGLSPG 35


Search completed: March 13, 2002, 09:05:41
Job time: 915 sec
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GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 09:04:16 ; Search time 161.29 Seconds
(without alignments)
8.162 Million cell updates/sec

Title: US-09-462-089-2
Perfect score: 58
Sequence: 1 HWSYGLRPG 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 473505 seqs, 146272329 residues

Total number of hits satisfying chosen parameters: 473505

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_17:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	58	100.0	91	13	Q9PRH0	Q9prh0 anguilla ja
2	52	89.7	87	13	Q9YI26	Q9yi26 sparus aura
3	52	89.7	95	13	O73812	O73812 morone saxa
4	52	89.7	99	13	Q9IA10	Q9ia10 dicentrarch
5	50	86.2	90	13	Q9IAU2	Q9iau2 rana dybows
6	48	82.8	91	13	Q9DGC8	Q9dgc8 oryzias lat
7	45	77.6	33	13	Q9W7G0	Q9w7g0 oncorhynchu
8	45	77.6	33	13	Q9PT34	Q9pt34 oncorhynchu
9	45	77.6	82	13	Q92094	Q92094 oncorhynchu
10	45	77.6	82	13	Q9W7G1	Q9w7g1 oncorhynchu
11	45	77.6	82	13	Q9I8Q0	Q9i8q0 oncorhynchu
12	45	77.6	82	13	Q9I8P9	Q9i8p9 oncorhynchu
13	45	77.6	88	13	Q9PSY9	Q9psy9 sparus aura
14	45	77.6	90	13	Q9IA09	Q9ia09 dicentrarch
15	45	77.6	90	13	Q9DD49	Q9dd49 oryzias lat
16	45	77.6	94	13	Q9DEH6	Q9deh6 carassius a
17	45	77.6	94	13	Q9DEH5	Q9deh5 carassius a
18	45	77.6	94	13	Q9DDD8	Q9ddd8 brachydanio
19	42	72.4	686	4	Q9H6R3	Q9h6r3 homo sapien
20	41	70.7	316	11	O08782	O08782 cricetulus
21	41	70.7	316	11	Q99JN4	Q99jn4 mus musculu
22	40	69.0	75	6	Q9TTV0	Q9ttv0 trichosurus
23	40	69.0	80	13	Q9DGC9	Q9dgc9 oryzias lat
24	40	69.0	85	13	O73811	O73811 morone saxa
25	40	69.0	85	13	Q9IA08	Q9ia08 dicentrarch
26	40	69.0	86	13	O42471	O42471 carassius a
27	40	69.0	86	13	Q9PW69	Q9pw69 typhlonecte
28	40	69.0	86	13	Q9PT25	Q9pt25 oncorhynchu
29	40	69.0	87	13	Q9PRI3	Q9pri3 anguilla ja
30	40	69.0	93	13	Q9DG36	Q9dg36 rana catesb
31	40	69.0	107	6	Q9TSI3	Q9tsi3 macaca mula
32	40	69.0	112	4	Q9BYP0	Q9byp0 homo sapien
33	40	69.0	113	4	Q9BYN9	Q9byn9 homo sapien
34	40	69.0	114	6	O97655	O97655 macaca mula
35	40	69.0	532	5	O44866	O44866 caenorhabdi
36	40	69.0	565	2	Q9KM11	Q9km11 vibrio chol
37	39	67.2	315	5	P91045	P91045 caenorhabdi
38	39	67.2	388	1	Q9YD14	Q9yd14 aeropyrum p
39	39	67.2	508	10	O82588	O82588 arabidopsis
40	39	67.2	1444	5	Q17591	Q17591 caenorhabdi
41	38	65.5	148	11	Q9DCH3	Q9dch3 mus musculu
42	38	65.5	161	10	Q9ZUG1	Q9zug1 arabidopsis
43	38	65.5	205	10	Q9AWR9	Q9awr9 oryza sativ
44	38	65.5	208	5	Q9VW18	Q9vw18 drosophila
45	38	65.5	236	10	Q9FYR4	Q9fyr4 arabidopsis

ALIGNMENTS

RESULT 1
Q9PRH0
ID Q9PRH0 PRELIMINARY; PRT; 91 AA.
AC Q9PRH0;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE GONADOLIBERIN PRECURSOR (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-
DE RH) (LULIBERIN).
OS Anguilla japonica (Japanese eel).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Anguilliformes; Anguilloidei;
OC Anguillidae; Anguilla.
OX NCBI_TaxID=7937;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=BRAIN;
RA Okubo K., Suetake H., Aida K.;
RT "Expression of two gonadotropin-releasing hormone (GnRH) precursor
RT genes in various tissues of the Japanese eel and evolution of GnRH.";
RL Zool. Sci. 16:471-478(1999).
RN [2]
RP SEQUENCE FROM N.A.
RA Okubo K., Suetake H., Aida K.;
RT "A splicing variant for the prepro-mammalian gonadotropin-releasing
RT hormone (prepro-mGnRH) mRNA is present in the brain and various
RT peripheral tissues of the Japanese eel.";
RL Zool. Sci. 16:645-651(1999).
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -!- SIMILARITY: TO THE GNRH FAMILY.
DR EMBL; AB026989; BAA82608.1; -.
DR EMBL; AB026991; BAA83597.1; -.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 22 POTENTIAL.
FT CHAIN 23 32 MGNRH.
FT CHAIN 33 91 GNRH ASSOCIATED PEPTIDE.
SQ SEQUENCE 91 AA; 9893 MW; BA15C9DC08434A7B CRC64;

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  Query Match             100.0%;  Score 58;  DB 13;  Length 91;
  Best Local Similarity   100.0%;  Pred. No. 0.0047;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db     24 HWSYGLRPG 32


RESULT   2
Q9YI26
ID   Q9YI26      PRELIMINARY;      PRT;    87 AA.
AC   Q9YI26;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN) (FRAGMENT).
OS   Sparus aurata (Gilthead sea bream).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Sparus.
OX   NCBI_TaxID=8175;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=OVARY;
RA   Nabissi M.;
RL   Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF046801; AAD02427.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
FT   NON_TER       1      1
FT   NON_TER      87     87
SQ   SEQUENCE   87 AA;  9871 MW;  0D2463533D96782A CRC64;


  Query Match             89.7%;  Score 52;  DB 13;  Length 87;
  Best Local Similarity   88.9%;  Pred. No. 0.052;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||| ||
Db     22 HWSYGLSPG 30


RESULT   3
O73812
ID   O73812      PRELIMINARY;      PRT;    95 AA.
AC   O73812;
DT   01-AUG-1998 (TrEMBLrel. 07, Created)
DT   01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Morone saxatilis (Striped bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=34816;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Chow M.M., Kight K.E., Gothilf Y., Alok D., Zohar Y.;
RL   Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF056314; AAD03817.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   95 AA;  10411 MW;  980C6988FC279BFC CRC64;


  Query Match             89.7%;  Score 52;  DB 13;  Length 95;
  Best Local Similarity   88.9%;  Pred. No. 0.057;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||| ||
Db     24 HWSYGLSPG 32


RESULT   4
Q9IA10
ID   Q9IA10      PRELIMINARY;      PRT;    99 AA.
AC   Q9IA10;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Dicentrarchus labrax (European sea bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Dicentrarchus.
OX   NCBI_TaxID=13489;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Gonzalez-Martinez D., Madigou T., Zmora N., Anglade I., Zanuy S.,
RA   Zohar Y., Elizur A., Munoz-Cueto J.A., Kah O.;
RT   "Differential expression of three different prepro-GnRH
RT   (Gonadotrophin-releasing hormone) messengers in the brain of the
RT   European sea bass (Dicentrarchus labrax).";
RL   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Zmora N., Zohar Y., Elizur A.;
RT   "3 GnRH form in the seabass Dicentrarchus labrax.";
RL   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF224279; AAF62898.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   99 AA;  10758 MW;  EC8AEEC93CC02904 CRC64;


  Query Match             89.7%;  Score 52;  DB 13;  Length 99;
  Best Local Similarity   88.9%;  Pred. No. 0.059;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||| ||
Db     28 HWSYGLSPG 36


RESULT   5
Q9IAU2
ID   Q9IAU2      PRELIMINARY;      PRT;    90 AA.
AC   Q9IAU2;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
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DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Rana dybowskii (Frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.
OX   NCBI_TaxID=71582;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Yoo M.S., Kang H.M., Choi H.S., Chun S.Y., Troskie B., Millar R.P.,
RA   Kwon H.B.;
RT   "Molecular Cloning, Distribution and Phamacological Characterization
RT   of a Novel Gonadotropin-Releasing Hormone([Trp8]GnRH) in Frog Brain.";
RL   Mol. Cell. Endocrinol. 0:0-0(2000).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF139911; AAF44343.1; -.
DR   InterPro; IPR002012; GnRH.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   90 AA;  10368 MW;  C3D573E78B52ABFA CRC64;


  Query Match             86.2%;  Score 50;  DB 13;  Length 90;
  Best Local Similarity   88.9%;  Pred. No. 0.12;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||| ||
Db     26 HWSYGLWPG 34


RESULT   6
Q9DGC8
ID   Q9DGC8      PRELIMINARY;      PRT;    91 AA.
AC   Q9DGC8;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   PREPRO-GONADOTROPIN-RELEASING HORMONE.
GN   MDGNRH.
OS   Oryzias latipes (Medaka fish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC   Beloniformes; Adrianichthyidae; Oryziinae; Oryzias.
OX   NCBI_TaxID=8090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RX   PubMed=11006121;
RA   Okubo K., Amano M., Yoshiura Y., Suetake H., Aida K.;
RT   "A Novel Form of Gonadotropin-Releasing Hormone in the Medaka, Oryzias
RT   latipes.";
RL   Biochem. Biophys. Res. Commun. 276:298-303(2000).
DR   EMBL; AB041333; BAB16303.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; UNKNOWN_1.
FT   CHAIN        22     31       GONADOTROPIN-RELEASING HORMONE.
SQ   SEQUENCE   91 AA;  10307 MW;  A00F2BED6FD6E0B5 CRC64;


  Query Match             82.8%;  Score 48;  DB 13;  Length 91;
  Best Local Similarity   77.8%;  Pred. No. 0.28;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||:|| ||
Db     23 HWSFGLSPG 31


RESULT   7
Q9W7G0
ID   Q9W7G0      PRELIMINARY;      PRT;    33 AA.
AC   Q9W7G0;
DT   01-NOV-1999 (TrEMBLrel. 12, Created)
DT   01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN) (FRAGMENT).
GN   GNRH2.
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99312119; PubMed=10385393;
RA   Von Schalburg K.R., Sherwood N.M.;
RT   "Regulation and expression of gonadotropin-releasing hormone gene
RT   differs in brain and gonads in rainbow trout.";
RL   Endocrinology 140:3012-3024(1999).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Von Schalburg K.R., Sherwood N.M.;
RL   Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF110993; AAD43463.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
FT   NON_TER      33     33
SQ   SEQUENCE   33 AA;  3668 MW;  099C825E4A72A3BB CRC64;


  Query Match             77.6%;  Score 45;  DB 13;  Length 33;
  Best Local Similarity   77.8%;  Pred. No. 0.32;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||  ||
Db     25 HWSYGWLPG 33


RESULT   8
Q9PT34
ID   Q9PT34      PRELIMINARY;      PRT;    33 AA.
AC   Q9PT34;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN) (FRAGMENT).
GN   GNRH1.
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99312119; PubMed=10385393;
RA   Von Schalburg K.R., Sherwood N.M.;
RT   "Regulation and expression of gonadotropin-releasing hormone gene
RT   differs in brain and gonads in rainbow trout.";
RL   Endocrinology 140:3012-3024(1999).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   von Schalburg K.R., Sherwood N.M.;
RL   Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
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CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF110533; AAD43461.1; -.
DR   InterPro; IPR002047; AKH.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00256; AKH; UNKNOWN_1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
FT   NON_TER      33     33
SQ   SEQUENCE   33 AA;  3741 MW;  1FE1535E742B7EBB CRC64;


  Query Match             77.6%;  Score 45;  DB 13;  Length 33;
  Best Local Similarity   77.8%;  Pred. No. 0.32;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||  ||
Db     25 HWSYGWLPG 33


RESULT   9
Q92094
ID   Q92094      PRELIMINARY;      PRT;    82 AA.
AC   Q92094;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN PRECURSOR (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-
DE   RH) (LULIBERIN).
GN   PREPRO-GNRH-I.
OS   Oncorhynchus nerka (Sockeye salmon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8023;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=NIKKO; TISSUE=BRAIN;
RX   MEDLINE=96020547; PubMed=8546809;
RA   Ashihara M., Suzuki M., Kubokawa K., Yoshiura Y., Kobayashi M.,
RA   Urano A., Aida K.;
RT   "Two differing precursor genes for the salmon-type gonadotropin-
RT   releasing hormone exist in salmonids.";
RL   J. Mol. Endocrinol. 15:1-9(1995).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; D31868; BAA06666.1; -.
DR   InterPro; IPR002047; AKH.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00256; AKH; UNKNOWN_1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone; Signal.
FT   SIGNAL       1     23       POTENTIAL.
FT   CHAIN       24     33       GNRH.
FT   CHAIN       37     82       GNRH-ASSOCIATED PEPTIDE.
SQ   SEQUENCE   82 AA;  9126 MW;  C64044EA521B2B8B CRC64;


  Query Match             77.6%;  Score 45;  DB 13;  Length 82;
  Best Local Similarity   77.8%;  Pred. No. 0.84;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||  ||
Db     25 HWSYGWLPG 33


RESULT  10
Q9W7G1
ID   Q9W7G1      PRELIMINARY;      PRT;    82 AA.
AC   Q9W7G1;
DT   01-NOV-1999 (TrEMBLrel. 12, Created)
DT   01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
GN   GNRH1.
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99312119; PubMed=10385393;
RA   Von Schalburg K.R., Sherwood N.M.;
RT   "Regulation and expression of gonadotropin-releasing hormone gene
RT   differs in brain and gonads in rainbow trout.";
RL   Endocrinology 140:3012-3024(1999).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Von Schalburg K.R., Sherwood N.M.;
RL   Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF110992; AAD43462.1; -.
DR   InterPro; IPR002047; AKH.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00256; AKH; UNKNOWN_1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   82 AA;  9232 MW;  7595B4FCC65FDFD6 CRC64;


  Query Match             77.6%;  Score 45;  DB 13;  Length 82;
  Best Local Similarity   77.8%;  Pred. No. 0.84;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||  ||
Db     25 HWSYGWLPG 33


RESULT  11
Q9I8Q0
ID   Q9I8Q0      PRELIMINARY;      PRT;    82 AA.
AC   Q9I8Q0;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Ferriere F., Bailhache T., Jego P.;
RT   "Oncorhynchus mykiss sGnRH-I cDNA from brain.";
RL   Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF232212; AAF91280.1; -.
DR   InterPro; IPR002047; AKH.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00256; AKH; UNKNOWN_1.
DR   PROSITE; PS00473; GNRH; 1.
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KW   Amidation; Hormone.
SQ   SEQUENCE   82 AA;  9198 MW;  7595A0B896556A69 CRC64;


  Query Match             77.6%;  Score 45;  DB 13;  Length 82;
  Best Local Similarity   77.8%;  Pred. No. 0.84;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||  ||
Db     25 HWSYGWLPG 33


RESULT  12
Q9I8P9
ID   Q9I8P9      PRELIMINARY;      PRT;    82 AA.
AC   Q9I8P9;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Ferriere F., Bailhache T., Jego P.;
RT   "Oncorhynchus mykiss sGnRH-II cDNA in the brain.";
RL   Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF232213; AAF91281.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   82 AA;  9203 MW;  8053F4F221A0FF08 CRC64;


  Query Match             77.6%;  Score 45;  DB 13;  Length 82;
  Best Local Similarity   77.8%;  Pred. No. 0.84;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||  ||
Db     25 HWSYGWLPG 33


RESULT  13
Q9PSY9
ID   Q9PSY9      PRELIMINARY;      PRT;    88 AA.
AC   Q9PSY9;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN) (FRAGMENT).
OS   Sparus aurata (Gilthead sea bream).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Sparus.
OX   NCBI_TaxID=8175;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=OVARY;
RA   Nabissi M.;
RL   Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF046799; AAD02425.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
FT   NON_TER      88      88
SQ   SEQUENCE   88 AA;  9788 MW;  F7EB868C2FBDF19F CRC64;


  Query Match             77.6%;  Score 45;  DB 13;  Length 88;
  Best Local Similarity   77.8%;  Pred. No. 0.9;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||  ||
Db     25 HWSYGWLPG 33


RESULT  14
Q9IA09
ID   Q9IA09      PRELIMINARY;      PRT;    90 AA.
AC   Q9IA09;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Dicentrarchus labrax (European sea bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Dicentrarchus.
OX   NCBI_TaxID=13489;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Gonzalez-Martinez D., Madigou T., Zmora N., Anglade I., Zanuy S.,
RA   Zohar Y., Elizur A., Munoz-Cueto J.A., Kah O.;
RT   "Differential expression of three different prepro-GnRH
RT   (Gonadotrophin-releasing hormone) messengers in the brain of the
RT   European sea bass (Dicentrarchus labrax).";
RL   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Zmora N., Zohar Y., Elizur A.;
RT   "The salmon GnRH form of the sea bass, Dicentrarchus labrax.";
RL   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF224280; AAF62899.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   90 AA;  10154 MW;  B06A7BA413930C67 CRC64;


  Query Match             77.6%;  Score 45;  DB 13;  Length 90;
  Best Local Similarity   77.8%;  Pred. No. 0.92;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||  ||
Db     25 HWSYGWLPG 33


RESULT  15
Q9DD49
```

```
ID   Q9DD49      PRELIMINARY;      PRT;    90 AA.
AC   Q9DD49;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
GN   SGNRH.
OS   Oryzias latipes (Medaka fish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC   Beloniformes; Adrianichthyidae; Oryziinae; Oryzias.
OX   NCBI_TaxID=8090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RX   PubMed=11006121;
RA   Okubo K., Amano M., Yoshiura Y., Suetake H., Aida K.;
RT   "A Novel Form of Gonadotropin-Releasing Hormone in the Medaka, Oryzias
RT   latipes.";
RL   Biochem. Biophys. Res. Commun. 276:298-303(2000).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AB041332; BAB16302.1; -.
DR   EMBL; AB041331; BAB16301.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
FT   CHAIN        24     33       GONADOTROPIN-RELEASING HORMONE.
SQ   SEQUENCE   90 AA;  10176 MW;  AE0B3DC9047475B9 CRC64;


  Query Match             77.6%;  Score 45;  DB 13;  Length 90;
  Best Local Similarity   77.8%;  Pred. No. 0.92;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
           |||||  ||
Db      25 HWSYGWLPG 33


Search completed: March 13, 2002, 09:04:17
Job time: 961 sec
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GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 08:50:20 ; Search time 115.24 Seconds
(without alignments)
5.785 Million cell updates/sec

Title: US-09-462-089-2
Perfect score: 58
Sequence: 1 HWSYGLRPG 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 522463 seqs, 74073290 residues

Total number of hits satisfying chosen parameters: 522463

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_1101:*
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16: /SIDS1/gcgdata/geneseq/geneseqp/AA1995.DAT:*
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19: /SIDS1/gcgdata/geneseq/geneseqp/AA1998.DAT:*
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21: /SIDS1/gcgdata/geneseq/geneseqp/AA2000.DAT:*
22: /SIDS1/gcgdata/geneseq/geneseqp/AA2001.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	58	100.0	9	20	AAW94891	LHRH peptide fragm
2	58	100.0	9	21	AAB15363	Human LHRH peptide
3	58	100.0	9	21	AAB08104	Amino acid sequenc
4	58	100.0	9	22	AAB90979	Luteinising hormon
5	58	100.0	9	22	AAB59836	GnRH peptide. Pet
6	58	100.0	10	2	AAP10097	Sequence of lutein
7	58	100.0	10	2	AAP10411	Luteinising Hormon
8	58	100.0	10	2	AAP10416	Luteinising Hormon
9	58	100.0	10	6	AAP50222	Gonadotrophin rele
10	58	100.0	10	7	AAP60127	Gonadoliberin anta
11	58	100.0	10	7	AAP61403	Gonadotropin relea
12	58	100.0	10	7	AAP60576	Novel decapeptide
13	58	100.0	10	8	AAP70922	Luteinising hormon
14	58	100.0	10	10	AAP90630	Sequence of lutein
15	58	100.0	10	12	AAR15713	Peptide #1 with ho
16	58	100.0	10	13	AAR26819	LH releasing hormo
17	58	100.0	10	15	AAR62689	LHRH hapten for at
18	58	100.0	10	16	AAR91197	LHRH peptide. Syn
19	58	100.0	10	16	AAR86845	Gonadotropin relea
20	58	100.0	10	16	AAR75152	Gonadotropin relea
21	58	100.0	10	17	AAW65201	Luteinising hormon
22	58	100.0	10	17	AAW65203	Luteinising hormon
23	58	100.0	10	18	AAW45642	Luteinising hormon
24	58	100.0	10	18	AAW22390	Gonadotropin relea
25	58	100.0	10	18	AAW16390	Gonadotropin relea
26	58	100.0	10	18	AAW04612	Lutenizing hormone
27	58	100.0	10	19	AAW79566	GnRH-1 polypeptide
28	58	100.0	10	19	AAW76381	Rat modified GnHR
29	58	100.0	10	19	AAW76373	Rat GnHR peptide.
30	58	100.0	10	19	AAW61541	Peptide hormone Gn
31	58	100.0	10	20	AAY50229	Neutrophil-activat
32	58	100.0	10	20	AAY31176	Ubiquitin fusion p
33	58	100.0	10	20	AAY31180	Ubiquitin fusion p
34	58	100.0	10	20	AAY31067	Non-crosslinked pr
35	58	100.0	10	20	AAY03864	Amino acid sequenc
36	58	100.0	10	20	AAY03856	Amino acid sequenc
37	58	100.0	10	20	AAW94890	LHRH peptide fragm
38	58	100.0	10	20	AAW96765	Luteinising hormon
39	58	100.0	10	20	AAW84278	Hormone domain of
40	58	100.0	10	20	AAW84286	Modified hormone d
41	58	100.0	10	20	AAW83360	Luteinising hormon
42	58	100.0	10	21	AAB10930	Gonadorelin peptid
43	58	100.0	10	21	AAB15362	Human LHRH peptide
44	58	100.0	10	21	AAB20863	Gonadotropin relea
45	58	100.0	10	21	AAB20777	Luteinising hormon

ALIGNMENTS

RESULT 1
AAW94891
ID AAW94891 standard; peptide; 9 AA.
XX
AC AAW94891;
XX
DT 11-MAY-1999 (first entry)
XX
DE LHRH peptide fragment.
XX
KW LHRH; immune response; luteinising hormone releasing hormone; DT;
KW diphtheria toxoid; castrating; oestrus cycling; aggression; breast;
KW sexual activity; organoleptic; livestock; cell growth; malignant;
KW prostate; ovarian; oncofoetal; hyperplastic; pregnancy;
KW endometriosis; inflammatory response.
XX
OS Homo sapiens.
XX
PN WO9902180-A1.
XX
PD 21-JAN-1999.
XX
PF 09-JUL-1998; 98WO-AU00532.
XX
PR 09-JUL-1997; 97AU-0007768.
XX
PA (CSLC-) CSL LTD.
XX
PI McNamara MK;
XX
DR WPI; 1999-120511/10.
XX
PT New immunogenic leutenising hormone releasing hormone compositions -
PT comprise LHRH conjugated to diphtheria toxoid and adsorbed to an

PT ionic polysaccharide, used to inhibit reproductive function in
PT animals
XX
PS Example 3; Page 30; 41pp; English.
XX
CC The invention relates immunogenic composition for eliciting an immune
CC response to luteinising hormone releasing hormone (LHRH). The
CC composition comprises a LHRH-diphtheria toxoid (DT) conjugate adsorbed to
CC an ionic polysaccharide. The LHRH-DT compositions can be used for
CC eliciting an immune response to LHRH, for castrating an animal, for
CC regulating oestrus cycling in a female animal or for inhibiting
CC characteristics induced by the sexual maturation of an animal, e.g.
CC aggression or sexual activity. They can also be used for achieving
CC production gains in livestock, e.g. reduction or elimination of unwanted
CC organoleptic characteristics from the meat of livestock. They can also be
CC used for inhibiting the growth of cells which are regulated directly or
CC indirectly by LHRH, e.g. malignant breast cells, malignant prostate
CC cells, malignant ovarian cells, malignant oncofoetal cells or
CC hyperplastic cells. They can also be used for down-regulating the libido
CC of an animal. They can also be used for inhibiting pregnancy, prostate
CC enlargement, endometriosis or inflammatory responses. The LHRH
CC compositions induce a more effective immune response against LHRH than
CC the LHRH-carrier-adjuvant compositions. The effective immune response
CC against LHRH results in prevention of the release of the hormones LH and
CC FSH from the anterior pituitary. Sequences AAW94890-93 are peptide
CC derivatives of LHRH.
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 58; DB 20; Length 9;
Best Local Similarity 100.0%; Pred. No. 4.3e+05;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HWSYGLRPG 9
|||||||||
Db 1 hwsyglrpg 9

RESULT 2
AAB15363
ID AAB15363 standard; peptide; 9 AA.
XX
AC AAB15363;
XX
DT 17-JAN-2001 (first entry)
XX
DE Human LHRH peptide SEQ ID NO: 2.
XX
KW Human; LHRH; GnRH; luteinising hormone releasing hormone;
KW gonadotrophin releasing hormone; fertility control; cancer;
KW endometriosis; prostate enlargement.
XX
OS Homo sapiens.
XX
PN WO200041720-A1.
XX
PD 20-JUL-2000.
XX
PF 24-DEC-1999; 99WO-AU01167.
XX
PR 08-JAN-1999; 99AU-0008073.
XX
PA (CSLC-) CSL LTD.
XX
PI Walker J;
XX
DR WPI; 2000-475954/41.
XX
PT Adjuvant composition for manufacturing an immunogenic composition that
PT can elicit an immune response in an animal, comprises an ionic
PT polysaccharide component and a saponin component that is an
PT immunostimulating complex -
XX
PS Disclosure; Page 50; 53pp; English.
XX
CC The present sequence is a peptide fragment of human luteinising hormone
CC releasing hormone (also known as LHRH, GnRH and gonadotrophin releasing
CC hormone). It was used to demonstrate the novel adjuvant of the invention,
CC which has lower reactogenicity then previous compositions. Vaccination of
CC humans and animals against LHRH can be used as a method of fertility
CC control, as well as enabling the control and treatment of disorders of
CC the reproductive organs, such as testicular, breast, prostate and ovarian
CC cancers, prostate enlargement and endometriosis. The composition of the
CC invention contains an anionic macromolecule and a saponin component, the
CC latter of which is an immunostimulant, and it can also be used with other
CC immunogens including soluble protein antigens, peptide haptens conjugated
CC to a carrier protein and whole viruses.
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 58; DB 21; Length 9;
Best Local Similarity 100.0%; Pred. No. 4.3e+05;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HWSYGLRPG 9
|||||||||
Db 1 hwsyglrpg 9

RESULT 3
AAB08104
ID AAB08104 standard; peptide; 9 AA.
XX
AC AAB08104;
XX
DT 04-DEC-2000 (first entry)
XX
DE Amino acid sequence of truncated luteinising hormone releasing hormone.
XX
KW T helper cell epitope; CDV; immune response; canine vaccine;
KW luteinising hormone releasing hormone; LHRH.
XX
OS Canis sp.
XX
PN WO200046390-A1.
XX
PD 10-AUG-2000.
XX
PF 07-FEB-2000; 2000WO-AU00070.
XX
PR 05-FEB-1999; 99AU-0008533.
PR 04-AUG-1999; 99AU-0002013.
XX
PA (UYME) UNIV MELBOURNE.
PA (CSLC-) CSL LTD.
PA (CSIR) COMMONWEALTH SCI & IND RES ORG.
PA (COUN-) COUNCIL QUEENSLAND INST MEDICAL RES.
PA (HALL-) HALL INST MEDICAL RES WALTER & ELIZA.
XX
PI Jackson DC, Souravi G, Walker J;
XX
DR WPI; 2000-532904/48.
XX
PT Novel T helper cell epitopes derived from canine distemper virus useful
PT for preparation of canine vaccines -
XX
PS Example 3; Page 21; 54pp; English.
XX
CC The present sequence represents luteinising hormone releasing hormone
CC (LHRH). It is used in vaccines with T helper cell epitopes
CC AAB08076-B08101, derived from canine distemper virus (CDV). Compositions
CC comprising these T cell helper epitopes are useful for inducing an
CC immune response in an animal. The epitopes are useful as components
CC of animal, in particular, canine vaccines, either simply as synthetic

CC peptide based vaccines and as additions to vaccines containing more
CC complex antigens.
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 58; DB 21; Length 9;
Best Local Similarity 100.0%; Pred. No. 4.3e+05;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HWSYGLRPG 9
||||||||| |
Db 1 hwsyglrpg 9

RESULT 4
AAB90979
ID AAB90979 standard; Peptide; 9 AA.
XX
AC AAB90979;
XX
DT 22-JUN-2001 (first entry)
XX
DE Luteinising hormone releasing hormone (LH-RH) related peptide SEQ ID:153.
XX
KW Protection; endogenous therapeutic peptide; peptidase; conjugation;
KW blood component; modification; succinimidyl; maleimido group; amino;
KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO200069900-A2.
XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-US13576.
XX
PR 17-MAY-1999; 99US-0134406.
PR 10-SEP-1999; 99US-0153406.
PR 15-OCT-1999; 99US-0159783.
XX
PA (CONJ-) CONJUCHEM INC.
XX
PI Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;
XX
DR WPI; 2001-112059/12.
XX
PT Modifying and attaching therapeutic peptides to albumin prevents
PT peptidase degradation, useful for increasing length of in vivo activity
PT -
XX
PS Disclosure; Page 240; 733pp; English.
XX
CC The present invention describes a modified therapeutic peptide (I)
CC comprising a therapeutically active amino acid region (III) and a
CC reactive group (II) (e.g. succinimidyl and maleimido groups) attached to
CC a less therapeutically active amino acid region (IV), which covalently
CC bonds with amino/hydroxyl/thiol groups on blood components to form a
CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC factors and neurotransmitters, to protect them from peptidase activity
CC in vivo for the treatment of various disorders. Endogenous therapeutic
CC peptides are not suitable as drug candidates as they require frequent
CC administration due to rapid degradation by peptidases in the body.
CC Modifying and attaching therapeutic peptides to albumin prevents or
CC reduces the action of peptidases to increase length of activity (half
CC life) and specificity as bonding to large molecules decreases
CC intracellular uptake and interference with physiological processes.
CC AAB90829 to AAB92441 represent peptides which can be used in the
CC exemplification of the present invention.
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 58; DB 22; Length 9;
Best Local Similarity 100.0%; Pred. No. 4.3e+05;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HWSYGLRPG 9
||||||||| |
Db 1 hwsyglrpg 9

RESULT 5
AAB59836
ID AAB59836 standard; Peptide; 9 AA.
XX
AC AAB59836;
XX
DT 26-MAR-2001 (first entry)
XX
DE GnRH peptide.
XX
KW GnRH-III; autoimmune disease; transplant rejection; retroviral disease;
KW graft-versus-host-disease; lymphoproliferative disease;
KW gonadotropin-releasing hormone.
XX
OS Petromyzon marinus.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /note= "Linked to Glucagon-like peptide"
XX
PN WO200074724-A2.
XX
PD 14-DEC-2000.
XX
PF 05-JUN-2000; 2000WO-GB02014.
XX
PR 03-JUN-1999; 99GB-0012807.
PR 03-JUN-1999; 99US-0137592.
XX
PA (BIOI-) BIO INNOVATION LTD.
XX
PI Franks CR, Della Bitta R, Maitland NJ, Knight DJ;
XX
DR WPI; 2001-061658/07.
XX
PT Novel product comprising proliferatively active moiety linked to
PT genetic material, useful as vectors for protected nucleic acid material
PT and as mitogen to stimulate proliferation of target cell -
XX
PS Disclosure; Page 4; 49pp; English.
XX
CC The present invention relates to a product comprising a proliferatively
CC active moiety (PAM) linked to nucleic acid material which is associated
CC with a protective material. The PAM product is useful for manufacturing
CC a medicament for treating e.g. an autoimmune disease, transplant
CC rejection, retroviral disease, graft-versus-host-disease, or
CC lymphoproliferative disease, comprising cells bearing a high affinity
CC receptor for PAM. The present sequence is a peptide of
CC gonadotropin-releasing hormone (GnRH). GnRH is a peptide hormone, which
CC has high-affinity receptors, and therefore can be used in the present
CC invention.
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 58; DB 22; Length 9;
Best Local Similarity 100.0%; Pred. No. 4.3e+05;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HWSYGLRPG 9
||||||||| |
Db 1 hwsyglrpg 9

```
RESULT   6
AAP10097
ID   AAP10097 standard; peptide; 10 AA.
XX
AC   AAP10097;
XX
DT   19-AUG-1992  (first entry)
XX
DE   Sequence of luteinising hormone (LH-RH, ICSH) liberating hormone.
XX
KW   Gonadorelin; luteinising hormone releasing hormone; LH-RH;
KW   ICSH; prostatic hyperplasia therapy.
XX
OS   Mammal.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1
FT                   /label= Pyr
FT   Modified-site   10
FT                   /label= Gly-NH2
XX
PN   BE887639-A.
XX
PD   24-AUG-1981.
XX
PF   27-AUG-1981;   81BE-0303944.
XX
PR   22-MAY-1980;   80US-0152241.
XX
PA   (AMHP ) AYERST MCKENNA HARR.
XX
PI   Auclair C;
XX
DR   WPI; 1981-66067D/37  (66067D).
XX
PT   Gonadorelin for treatment of benign prostatic hyperplasia - is
PT   the deca:peptide Pyr-His-Trp-Ser-Tyr-Gly-Leu-Arg-Pro-Gly-NH2 or
PT   luteinising hormone liberating hormone
XX
PS   Claim 1; Page 7; 9pp; French.
XX
CC   The inventors claim a compsn. for the redn. or prevention of
CC   undesired prostatic growth in males. The compsn. contains a
CC   decapeptide (gonadorelin) (AAP10097) with an appropriate vehicle or
CC   support. The compsn. is used for treating e.g. benign prostatic
CC   hyperplasia by parenteral admin. in daily doses of 0.035-11.0 (pref.
CC   0.080-2.0) mg/kg. Gonadorelin is the generic name for LH-RH and is
CC   described in US3835108. In the example s.c. injection of the
CC   compsn.significantly reduced the wt. of seminal vesicles and
CC   ventral prostate in rats without affecting the wt. of the
CC   testicles.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 58;  DB 2;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00071;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 hwsyglrpg 10


RESULT   7
AAP10411
ID   AAP10411 standard; peptide; 10 AA.
XX
AC   AAP10411;
XX
DT   17-DEC-1992  (first entry)
XX
DE   Luteinising Hormone Releasing Hormone.
XX
KW   LHRH; Follicle Stimulating Factor; FSH; acne; hirsutism;
KW   dysmennorhea; precocious puberty; endometriosis; prostate cancer;
KW   benign prostate hypertrophy; mammary tumour.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= OTHER
FT                   /note= "pyroglutamic acid"
FT   Modified-site   10
FT                   /note= "amidated"
XX
PN   BE885308-A.
XX
PD   19-MAR-1981.
XX
PF   23-FEB-1983;   83BE-0468932.
XX
PR   21-SEP-1979;   79FR-0023545.
XX
PA   (ROUS ) ROUSSEL UCLAF.
XX
DR   WPI; 1981-23409D/14  (23409D).
XX
PT   LH-RH, liberating factor for LH and FSH, and its agonists compsn.
PT   - used to treat prostate adenocarcinoma, benign hypertrophy of
PT   the prostate, hirsutism, acne, etc.
XX
PS   Claim 1(a); Page 15; 27pp; French.
XX
CC   A composition is claimed containing LHRH or its analogues. The
CC   composition is used to treat prostate adenocarcinoma, benign
CC   hypertrophy of the prostate, endometriosis, dysmenorrhea, hirsutism,
CC   hormone-dependent mammary tumours, for treatment or prevention of
CC   precocious puberty, delaying the onset of puberty and for treating
CC   acne. The compositions may also contain antiandrogens.
CC   See also AAP10412-P10418.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 58;  DB 2;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00071;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 hwsyglrpg 10


RESULT   8
AAP10416
ID   AAP10416 standard; peptide; 10 AA.
XX
AC   AAP10416;
XX
DT   17-DEC-1992  (first entry)
XX
DE   Luteinising Hormone Releasing Hormone analogue #5.
XX
KW   LHRH; Follicle Stimulating Factor; FSH; acne; hirsutism;
KW   dysmennorhea; precocious puberty; endometriosis; prostate cancer;
KW   benign prostate hypertrophy; mammary tumour.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= OTHER
FT                   /note= "pyroglutamic acid"
FT   Modified-site   7
FT                   /label= OTHER
FT                   /note= "N-alpha-methyl-Leu"
```

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FT   Modified-site   10
FT                   /note= "amidated or absent, in which case Pro(9)
FT                          is Pro-NH-C2H5"
XX
PN   BE885308-A.
XX
PD   19-MAR-1981.
XX
PF   23-FEB-1983;   83BE-0468932.
XX
PR   21-SEP-1979;   79FR-0023545.
XX
PA   (ROUS ) ROUSSEL UCLAF.
XX
DR   WPI; 1981-23409D/14  (23409D).
XX
PT   LH-RH, liberating factor for LH and FSH, and its agonists compsn.
PT   - used to treat prostate adenocarcinoma, benign hypertrophy of
PT   the prostate, hirsutism, acne, etc.
XX
PS   Claim 1(f); Page 16; 27pp; French.
XX
CC   A composition is claimed containing LHRH or its analogues. The
CC   composition is used to treat prostate adenocarcinoma, benign
CC   hypertrophy of the prostate, endometriosis, dysmenorrhea, hirsutism,
CC   hormone-dependent mammary tumours, for treatment or prevention of
CC   precocious puberty, delaying the onset of puberty and for treating
CC   acne. The compositions may also contain antiandrogens.
CC   See AAP10411-P10418.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 58;  DB 2;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00071;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 hwsyglrpg 10


RESULT   9
AAP50222
ID   AAP50222 standard; Protein; 10 AA.
XX
AC   AAP50222;
XX
DT   20-JAN-1992  (first entry)
XX
DE   Gonadotrophin release stimulating hormone.
XX
KW   GnRH; LH-RH; LRF; gonadotrophins; steroids; contraceptive.
XX
OS   Synthetic.
XX
PN   EP143573-A.
XX
PD   05-JUN-1985.
XX
PF   05-NOV-1984;   84EP-0307625.
XX
PR   29-NOV-1983;   83US-0556148.
PR   30-AUG-1985;   85US-0771517.
XX
PA   (SALK ) SALK INST FOR BIOL STUD.
XX
PI   Roeske RW,  Rivier JE,  Vale WW;
XX
DR   WPI; 1985-136434/23.
XX
PT   New GnRH antagonist peptide(s) - useful as inhibitors of
PT   gonadotropin(s) and/or steroid(s) for contraceptive use.
XX
PS   Disclosure; Page 1; 20pp; English.
XX
CC   The claimed peptide antagonists inhibit the release of gonadotrophins
CC   and/or steroids. They are antagonistic to GnRH, inhibit ovulation, and
CC   may cause resorption of a fertilised egg if administered shortly after
CC   absorption. The peptides also have utility in male contraception, and
CC   in treatment of precoscious puberty, hormone dependent neoplasia,
CC   dysmenorrhoea and endometriosis.
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 58;  DB 6;  Length 10;
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  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 hwsyglrpg 10


RESULT   10
AAP60127
ID   AAP60127 standard; Peptide; 10 AA.
XX
AC   AAP60127;
XX
DT   12-JUN-1991  (first entry)
XX
DE   Gonadoliberin antagonist.
XX
KW   Gonadoliberin antagonist; contraceptive; antitumor.
XX
PN   EP201260-A.
XX
PD   12-NOV-1986.
XX
PF   28-APR-1986;   86EP-0303210.
XX
PR   09-MAY-1985;   85US-0732531.
XX
PA   (SALK ) SALK INST FOR BIOL STUD.
XX
PI   Rivier JEF,  Varga JI,  Hagler AT,  Struthers RS,  Perrin MH;
PI   Rivier CL,  Vale WW;
XX
DR   WPI; 1986-299774/46.
XX
PT   New peptide gonadotropin releasing hormone antagonists - useful
PT   esp. as contraceptives, for treating early puberty,
PT   hormone-dependent neoplasms etc.
XX
PS   Disclosure; Page 1; 33pp; English.
XX
CC   The decapeptide encodes a gonadoliberin antagonist, which may be
CC   used as a male contraceptive and as an antitumour (against steroid-
CC   dependent tumours).
XX
SQ   Sequence   10 AA;


  Query Match             100.0%;  Score 58;  DB 7;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00071;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 hwsyglrpg 10


RESULT   11
AAP61403
```

ID AAP61403 standard; protein; 10 AA.
XX
AC AAP61403;
XX
DT 04-AUG-1991 (first entry)
XX
DE Gonadotropin releasing hormone.
XX
KW Gonadotropin releasing hormone; analogue; peptide synthesis;
KW ovulation; veterinary medicine; fertility;
XX
PN DD232500-A.
XX
PD 29-JAN-1986.
XX
PF 08-MAY-1984; 84DD-0262804.
XX
PR 08-MAY-1984; 84DD-0262804.
XX
PA (DEAK) AKAD WISSENSCHAFT DDR.
XX
PI Kaufmann KD, Dolling R, Handel L;
XX
DR WPI; 1986-137868/22.
XX
PT Prepn. of gonadotropin liberating hormone and analogues - by
PT multistage rapid peptide synthesis in soln. without isolating
PT intermediates
XX
PS Disclosure; page 7; 8pp; german.
XX
CC The gonadotropin releasing hormone and its analogues are prepd. by a
CC new multistage rapid peptide synthesis method in soln., where the
CC intermediates are not isolated. The process is rapid and gives very
CC pure peptide quickly and using little equipment. The peptide can be
CC used in veterinary medicine to synchronise ovulation in large animal
CC herds, and in human medicine in the treatment of fertility disorders.
XX
SQ Sequence 10 AA;

Query Match 100.0%; Score 58; DB 7; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.00071;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HWSYGLRPG 9
|||||||||
Db 2 hwsyglrpg 10

RESULT 12
AAP60576
ID AAP60576 standard; Protein; 10 AA.
XX
AC AAP60576;
XX
DT 27-OCT-1991 (first entry)
XX
DE Novel decapeptide with LHRH inhibition activity.
XX
KW Lutenising hormone releasing hormone activity.
XX
OS Synthetic.
XX
PN JP61210098-A.
XX
PD 18-SEP-1986.
XX
PF 23-AUG-1985; 85JP-0185616.
XX
PR 23-AUG-1984; 84US-0643643.
XX
PA (TULA-) ADMIN TULANE EDUCAT.
PA (TULA) TULANE E FUND ADMINISTRA.
XX
DR WPI; 1986-321434/49.
XX
PT Deca:peptide - inhibits LH-RH hormone release activity.
XX
PS Disclosure; Page 990; 5pp; Japanese.
XX
CC Peptide inhibits the release of lutenising hormone releasing hormone.
CC See also AAP60575.
XX
SQ Sequence 10 AA;

Query Match 100.0%; Score 58; DB 7; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.00071;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HWSYGLRPG 9
|||||||||
Db 2 hwsyglrpg 10

RESULT 13
AAP70922
ID AAP70922 standard; peptide; 10 AA.
XX
AC AAP70922;
XX
DT 01-MAY-1991 (first entry)
XX
DE Luteinising hormone releasing hormone agonist.
XX
KW LHRH; contraception; precocious puberty; endometriosis;
KW breast tumours; prostate tumours; ectopic tumours; menopause.
XX
OS synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 10..10
FT /label= other
FT /note= "other= ketomethylene(Gly), dihydroketo-
FT methylene(Gly)"
FT Modified-site 1..1
FT /label= other
FT /note= "other= pyroglutamic acid"
XX
PN US4705778-A.
XX
PD 10-NOV-1987.
XX
PF 22-OCT-1985; 85US-0790031.
XX
PR 22-OCT-1985; 85US-0790031.
XX
PA (STRI) SRI INTERNATIONAL.
XX
PI Almquist RG, Olsen CM;
XX
DR WPI; 1987-334627/47.
XX
PT Orally active luteinising hormone-releasing hormone peptide
PT analogues - have keto:methylene or hydroxy:ethylene in place of
PT amide between proline(9) and glycine(10)
XX
PS Disclosure; page 4; 17pp; English.
XX
CC This luteinising hormone releasing hormone (LHRH) agonist has
CC either a ketomethylene or dihydroketomethylene gp. replacing the
CC amide linkage between residues 9 and 10 in LHRH. This results in
CC an increase in oral activity. It is useful for eg male and
CC female contraception, treatment of precocious puberty and endo-
CC metriosis and treatment of breast- and prostate tumours.

```
CC   See also AAP70923-27.
XX
SQ   Sequence   10 AA;


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  Best Local Similarity  100.0%;  Pred. No. 0.00071;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 hwsyglrpg 10


RESULT  14
AAP90630
ID   AAP90630 standard; protein; 10 AA.
XX
AC   AAP90630;
XX
DT   14-JUN-1989  (first entry)
XX
DE   Sequence of luteinizing hormone releasing hormone (LHRH).
XX
KW   Luteinizing hormone releasing hormone (LHRH); LHRH antagonist;
KW   19-nor-progestational agent; female gynaecological disorders.
XX
PN   EP301850-A.
XX
PD   01-FEB-1989.
XX
PF   28-JUL-1988;   88EP-0306947.
XX
PR   31-JUL-1987;   87US-0080518.
XX
PA   (SYNT ) SYNTEX (USA) INC.
XX
PI   Vickery BH;
XX
DR   WPI; 1989-033720/05.
XX
PT   Compsn. comprising LHRH-antagonist and 19-nor progestational agent -
PT   for treating female gynaecological disorders based on gonads
PT   steroid producn.
XX
PS   Disclosure; Page 2; 31pp; English.
XX
CC   Analogues (I) of the sequence pref. have amino acid (AA) substitutions at
CC   posns. 2 (his is replaced by a D-AA) and 6 (gly is replaced by a D-AA).
CC   A therapeutically effective amt. of such an antagonist is contained in a
CC   pharmaceutical compsn. alongside a menopausal-symtom-alleviating amt. of
CC   a 19-nor progestational agent (II) (pref. both in single formulation).
CC   The compsn. is pref. administered nasally in dosages of 0.01-1 mg/kg/ day
CC   for (I) and 0.02-0.07 mg/kg/day for (II). May be used for inhibition of
CC   ovulation, and treatment of eg endometriosis, breast cancer, polycistic
CC   ovarian disease, or precocious puberty in female mammals.
XX
SQ   Sequence   10 AA;


  Query Match           100.0%;  Score 58;  DB 10;  Length 10;
  Best Local Similarity  100.0%;  Pred. No. 0.00071;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 hwsyglrpg 10


RESULT  15
AAR15713
ID   AAR15713 standard; Protein; 10 AA.
XX
AC   AAR15713;
XX
DT   24-JAN-1992  (first entry)
XX
DE   Peptide #1 with homology to LHRH.
XX
KW   luliberin.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= OTHER
FT                   /note= "pyroGlu"
FT   Modified-site   9
FT                   /label= Hyp
FT   Modified-site   10
FT                   /label= OTHER
FT                   /note= "amidated"
XX
PN   WO9116343-A.
XX
PD   31-OCT-1991.
XX
PF   22-APR-1991;   91WO-FR00332.
XX
PR   23-APR-1990;   90FR-0005147.
XX
PA   (INRM ) INSERM INST NAT SANTE.
XX
PI   Gautron J,  Pattou E,  Kordon C,  Bauer K;
XX
DR   WPI; 1991-339753/46.
XX
PT   New peptide homologous with luteinising hormone-releasing hormone
PT   - used to treat gynaecological conditions, cancer of gonads and
PT   sec. sexual organs, psychiatric conditions and in assays
XX
PS   Claim 3; Page 50; 83pp; French.
XX
CC   The C-terminal residue (Gly-CO-NH2) can be replaced by ethylamide.
CC   This peptide and fragments of it (i.e. amino acids 4-10, 5-10, 6-10
CC   and 7-10) are agonists and antagonists of LHRH. They are useful for
CC   treating e.g. precocious or delayed puberty, psychiatric disorders
CC   esp. those of the libido or sexual aggression, etc. In addition they
CC   are useful for functional exploration of the hypothalamus-hypophyseal
CC   axis and for radioimmunological or biological assay (of LH, FSH and
CC   steroid levels) in biological fluids and biopsy samples.
XX
SQ   Sequence   10 AA;


  Query Match           100.0%;  Score 58;  DB 12;  Length 10;
  Best Local Similarity  100.0%;  Pred. No. 0.00071;
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Db      2 hwsyglrpg 10


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Job time: 268 sec
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GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 08:48:13 ; Search time 55.91 Seconds
(without alignments)
3.622 Million cell updates/sec

Title: US-09-462-089-2
Perfect score: 58
Sequence: 1 HWSYGLRPG 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 212252 seqs, 22503292 residues

Total number of hits satisfying chosen parameters: 212252

Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
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6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	58	100.0	10	1	US-07-714-540-9	Sequence 9, Appli
2	58	100.0	10	1	US-07-690-983D-2	Sequence 2, Appli
3	58	100.0	10	1	US-07-690-983D-32	Sequence 32, Appl
4	58	100.0	10	1	US-08-103-022-1	Sequence 1, Appli
5	58	100.0	10	1	US-08-184-935-6	Sequence 6, Appli
6	58	100.0	10	1	US-08-343-883-1	Sequence 1, Appli
7	58	100.0	10	1	US-08-000-931-5	Sequence 5, Appli
8	58	100.0	10	1	US-08-428-488-22	Sequence 22, Appl
9	58	100.0	10	1	US-08-341-219-11	Sequence 11, Appl
10	58	100.0	10	1	US-08-453-588-2	Sequence 2, Appli
11	58	100.0	10	1	US-08-453-588-4	Sequence 4, Appli
12	58	100.0	10	1	US-08-453-588-6	Sequence 6, Appli
13	58	100.0	10	1	US-08-453-588-8	Sequence 8, Appli
14	58	100.0	10	1	US-08-453-588-10	Sequence 10, Appl
15	58	100.0	10	1	US-08-453-588-12	Sequence 12, Appl
16	58	100.0	10	1	US-08-453-588-14	Sequence 14, Appl
17	58	100.0	10	1	US-08-453-588-16	Sequence 16, Appl
18	58	100.0	10	1	US-08-453-588-19	Sequence 19, Appl
19	58	100.0	10	1	US-08-453-588-22	Sequence 22, Appl
20	58	100.0	10	1	US-08-188-223-3	Sequence 3, Appli
21	58	100.0	10	1	US-08-406-935-5	Sequence 5, Appli
22	58	100.0	10	1	US-08-591-917-1	Sequence 1, Appli
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24	58	100.0	10	1	US-08-474-555-1	Sequence 1, Appli
25	58	100.0	10	1	US-08-446-692-1	Sequence 1, Appli
26	58	100.0	10	1	US-08-242-678D-1	Sequence 1, Appli
27	58	100.0	10	2	US-08-796-598-6	Sequence 6, Appli
28	58	100.0	10	2	US-08-694-865-2	Sequence 2, Appli
29	58	100.0	10	2	US-08-694-865-18	Sequence 18, Appl
30	58	100.0	10	2	US-08-488-351A-1	Sequence 1, Appli
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32	58	100.0	10	2	US-08-447-175A-6	Sequence 6, Appli
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34	58	100.0	10	3	US-08-521-079-2	Sequence 2, Appli
35	58	100.0	10	3	US-08-521-079-4	Sequence 4, Appli
36	58	100.0	10	3	US-08-521-079-6	Sequence 6, Appli
37	58	100.0	10	3	US-08-521-079-8	Sequence 8, Appli
38	58	100.0	10	3	US-08-521-079-10	Sequence 10, Appl
39	58	100.0	10	3	US-08-521-079-12	Sequence 12, Appl
40	58	100.0	10	3	US-08-521-079-14	Sequence 14, Appl
41	58	100.0	10	3	US-08-521-079-16	Sequence 16, Appl
42	58	100.0	10	3	US-08-521-079-19	Sequence 19, Appl
43	58	100.0	10	3	US-08-521-079-22	Sequence 22, Appl
44	58	100.0	10	3	US-09-124-491-2	Sequence 2, Appli
45	58	100.0	10	3	US-09-124-491-18	Sequence 18, Appl

ALIGNMENTS

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RESULT   1
US-07-714-540-9
; Sequence 9, Application US/07714540
; Patent No. 5262521
;  GENERAL INFORMATION:
;    APPLICANT:  Almquist, Ronald G.
;    APPLICANT:  Toll, Lawrence
;    TITLE OF INVENTION:  ISOLATED ATRIAL PEPTIDE-DEGRADING
;    TITLE OF INVENTION:  ENZYME AND NOVEL COMPOUNDS USEFUL AS INHIBITORS THEREOF
;    NUMBER OF SEQUENCES:  13
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Irell & Manella
;      STREET:  545 Middlefield Road, Suite 200
;      CITY:  Menlo Park
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94025
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/714,540
;      FILING DATE:  19910607
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Reed, Dianne E.
;      REGISTRATION NUMBER:  31,292
;      REFERENCE/DOCKET NUMBER:  8500-0135.00
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415-327-7250
;      TELEFAX:  415-327-2951
;      TELEX:  706141
;  INFORMATION FOR SEQ ID NO:  9:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  AMINO ACID
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-07-714-540-9


  Query Match             100.0%;  Score 58;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
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Db      2 HWSYGLRPG 10


RESULT   2
US-07-690-983D-2
; Sequence 2, Application US/07690983D
; Patent No. 5403586
;  GENERAL INFORMATION:
;    APPLICANT:  RUSSELL-JONES, Gregory J.
;    APPLICANT:  STEWART, Andrew G.
;    APPLICANT:  TSONIS, Con G.
;    TITLE OF INVENTION:  FUSION PROTEINS
;    NUMBER OF SEQUENCES:  47
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Foley & Lardner
;      STREET:  3000 K Street, N.W.
;      CITY:  Washington, D.C.
;      COUNTRY:  USA
;      ZIP:  20007-5109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/690,983D
;      FILING DATE:  25-JUN-1991
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/AU90/00373
;      FILING DATE:  24-AUG-1990
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BENT, Stephen A.
;      REGISTRATION NUMBER:  29,768
;      REFERENCE/DOCKET NUMBER:  16786/148 CHAC
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (202)672-5300
;      TELEFAX:  (202)672-5399
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  protein
US-07-690-983D-2


  Query Match             100.0%;  Score 58;  DB 1;  Length 10;
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  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 HWSYGLRPG 10


RESULT   3
US-07-690-983D-32
; Sequence 32, Application US/07690983D
; Patent No. 5403586
;  GENERAL INFORMATION:
;    APPLICANT:  RUSSELL-JONES, Gregory J.
;    APPLICANT:  STEWART, Andrew G.
;    APPLICANT:  TSONIS, Con G.
;    TITLE OF INVENTION:  FUSION PROTEINS
;    NUMBER OF SEQUENCES:  47
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Foley & Lardner
;      STREET:  3000 K Street, N.W.
;      CITY:  Washington, D.C.
;      COUNTRY:  USA
;      ZIP:  20007-5109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/690,983D
;      FILING DATE:  25-JUN-1991
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/AU90/00373
;      FILING DATE:  24-AUG-1990
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BENT, Stephen A.
;      REGISTRATION NUMBER:  29,768
;      REFERENCE/DOCKET NUMBER:  16786/148 CHAC
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (202)672-5300
;      TELEFAX:  (202)672-5399
;  INFORMATION FOR SEQ ID NO:  32:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-07-690-983D-32


  Query Match             100.0%;  Score 58;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 HWSYGLRPG 10


RESULT   4
US-08-103-022-1
; Sequence 1, Application US/08103022
; Patent No. 5413990
;  GENERAL INFORMATION:
;    APPLICANT:  Haviv, Fortuna
;    APPLICANT:  Fitzpatrick, Timothy D.
;    APPLICANT:  Swenson, Rolf E.
;    APPLICANT:  Nichols, Charles J.
;    APPLICANT:  Mort, Nicholas A.
;    TITLE OF INVENTION:  N-Terminus Modified Analogs of LHRH
;    NUMBER OF SEQUENCES:  1
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Edward H. Gorman, Jr., Dept. 377
;      STREET:  Abbott Laboratories, One Abbott Park Road
;      CITY:  No. 5413990th Chicago
;      STATE:  IL
;      COUNTRY:  USA
;      ZIP:  60064-3500
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/103,022
;      FILING DATE:  05-OCT-1993
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Janssen, Jerry F.
;      REGISTRATION NUMBER:  29,175
;      REFERENCE/DOCKET NUMBER:  5389.US.01
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (708) 938-7742
;      TELEFAX:  (708) 938-2623
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
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;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  1
;      OTHER INFORMATION:  /note= "Xaa at position 1 is a
;      OTHER INFORMATION:  5-oxo-prolyl aminoacyl residue."
US-08-103-022-1


  Query Match             100.0%;  Score 58;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 HWSYGLRPG 10


RESULT   5
US-08-184-935-6
; Sequence 6, Application US/08184935
; Patent No. 5476770
;  GENERAL INFORMATION:
;    APPLICANT:  PRADELLES, PHILIPPE
;    TITLE OF INVENTION:  IMMUNOMETRIC DETERMINATION OF AN ANTIGEN
;    TITLE OF INVENTION:  OR HAPTEN
;    NUMBER OF SEQUENCES:  12
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT,
;      ADDRESSEE:  P.C.
;      STREET:  1755 S. Jefferson Davis Highway, Suite 400
;      CITY:  Arlington
;      STATE:  Virginia
;      COUNTRY:  U.S.A.
;      ZIP:  22202
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/184,935
;      FILING DATE:  24-JAN-1994
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Oblon, No. 5476770man F.
;      REGISTRATION NUMBER:  24,618
;      REFERENCE/DOCKET NUMBER:  846-286-0
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 413-3000
;      TELEFAX:  (703) 413-2220
;      TELEX:  248855 OPAT UR
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  10
;      OTHER INFORMATION:  /note= "C-terminal amide"
US-08-184-935-6


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  Best Local Similarity   100.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 HWSYGLRPG 9
          |||||||||
Db      2 HWSYGLRPG 10


RESULT   6
US-08-343-883-1
; Sequence 1, Application US/08343883
; Patent No. 5573767
;  GENERAL INFORMATION:
;    APPLICANT:  Dufour, Raymond J.
;    APPLICANT:  Roulet, Claude J.M.
;    APPLICANT:  Chouvet, Claire D.
;    APPLICANT:  Bonneau, Michel B.
;    TITLE OF INVENTION:  Method for improving the organoleptic
;    TITLE OF INVENTION:  qualities of the meat from uncastrated male domestic
;    TITLE OF INVENTION:  animals, vaccines which are usable in this method, new
;    TITLE OF INVENTION:  peptide, in particular for producing these vaccines...
;    NUMBER OF SEQUENCES:  2
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Larson and Taylor
;      STREET:  727 Twenty-Third Street, South
;      CITY:  Arlington
;      STATE:  Virginia
;      COUNTRY:  USA
;      ZIP:  22202
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/343,883
;      FILING DATE:  17-NOV-1994
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/946,495
;      FILING DATE:  09-NOV-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  FR 9102513
;      FILING DATE:  01-MAR-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  FR 9115289
;      FILING DATE:  10-DEC-1991
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  10
;      OTHER INFORMATION:  /label= NH2
;      OTHER INFORMATION:  /note= "amidated glycine"
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  1
;      OTHER INFORMATION:  /label= pyro
;      OTHER INFORMATION:  /note= "pyroglutamic acid"
;    PUBLICATION INFORMATION:
;      AUTHORS:  Matsuo, H.
;      AUTHORS:  Baba, Y.
;      AUTHORS:  G. Nair, R. M.
;      AUTHORS:  Arimura, A.
;      AUTHORS:  Schally, A. V.
;      TITLE:  Structure of the porcine LH- and
;      TITLE:  FSH-releasing hormone. I. The proposed amino acid
;      TITLE:  sequence.
;      JOURNAL:  Biochem. Biophys. Res. Commun.
;      VOLUME:  43
;      ISSUE:  6
;      PAGES:  1334-1339
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;      DATE:  1971
;      RELEVANT RESIDUES IN SEQ ID NO:  1: FROM 1 TO 10
US-08-343-883-1


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  Best Local Similarity   100.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
           |||||||||
Db       2 HWSYGLRPG 10


RESULT   7
US-08-000-931-5
; Sequence 5, Application US/08000931
; Patent No. 5578477
;  GENERAL INFORMATION:
;    APPLICANT:  Tamanoi Dr., Fuyuhiko
;    TITLE OF INVENTION:  IDENTIFICATION AND CHARACTERIZATION OF
;    TITLE OF INVENTION:  INHIBITORS OF PROTEIN FARNESYLTRANSFERASE
;    NUMBER OF SEQUENCES:  10
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Foley & Lardner
;      STREET:  3000 K Street, N.W., Suite 500
;      CITY:  Washington, D.C.
;      COUNTRY:  USA
;      ZIP:  20007-5109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/000,931
;      FILING DATE:  05-JAN-1994
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  BENT, Stephen A.
;      REGISTRATION NUMBER:  29,768
;      REFERENCE/DOCKET NUMBER:  64098/102/ARDE
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (202)672-5300
;      TELEFAX:  (202)672-5399
;      TELEX:  904136
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-000-931-5


  Query Match             100.0%;  Score 58;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
           |||||||||
Db       2 HWSYGLRPG 10


RESULT   8
US-08-428-488-22
; Sequence 22, Application US/08428488
; Patent No. 5624894
;  GENERAL INFORMATION:
;    APPLICANT:  BODOR, Nicholas S.
;    TITLE OF INVENTION:  BRAIN-ENHANCED DELIVERY OF NEUROACTIVE
;    TITLE OF INVENTION:  PEPTIDES BY SEQUENTIAL METABOLISM
;    NUMBER OF SEQUENCES:  107
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Burns, Doane, Swecker & Mathis
;      STREET:  P.O. Box 1404
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/428,488
;      FILING DATE:  27-APR-1995
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Baumeister, Mary Katherine
;      REGISTRATION NUMBER:  26,254
;      REFERENCE/DOCKET NUMBER:  028724-087
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  22:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  1
;      OTHER INFORMATION:  /note= "Position 1 = p-Glu."
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  10
;      OTHER INFORMATION:  /note= "Position 10 = Gly-NH2."
US-08-428-488-22


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  Best Local Similarity   100.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
           |||||||||
Db       2 HWSYGLRPG 10


RESULT   9
US-08-341-219-11
; Sequence 11, Application US/08341219
; Patent No. 5643877
;  GENERAL INFORMATION:
;    APPLICANT:  Zohar, Y.
;    APPLICANT:  Rivier, J.
;    APPLICANT:  Powell, J.
;    APPLICANT:  Sherwood, N.
;    APPLICANT:  Gothilf, Y.
;    TITLE OF INVENTION:  Compounds and Methods For Controlling
;    TITLE OF INVENTION:  Reproduction in Fish
;    NUMBER OF SEQUENCES:  26
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Pennie & Edmonds
;      STREET:  1155 Avenue of the Americas
;      CITY:  New York
;      STATE:  N.Y.
;      COUNTRY:  USA
;      ZIP:  10036-2711
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
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;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/341,219
;      FILING DATE:  05-DEC-1994
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Coruzzi,, Laura A.
;      REGISTRATION NUMBER:  30742
;      REFERENCE/DOCKET NUMBER:  8399-003-999
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (212) 790-9090
;      TELEFAX:  (212) 869-8864/9741
;  INFORMATION FOR SEQ ID NO:  11:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  not relevant
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
;    HYPOTHETICAL:  NO
;    ANTI-SENSE:  NO
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  1
;      OTHER INFORMATION:  /product= "OTHER"
;      OTHER INFORMATION:  /label= Glu1
;      OTHER INFORMATION:  /note= "=pyroglutamic acid"
;    FEATURE:
;      NAME/KEY:  Modified-site
;      LOCATION:  10
;      OTHER INFORMATION:  /product= "OTHER"
;      OTHER INFORMATION:  /label= Gly10
;      OTHER INFORMATION:  /note= "amidated"
US-08-341-219-11


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  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
           |||||||||
Db       2 HWSYGLRPG 10


RESULT  10
US-08-453-588-2
; Sequence 2, Application US/08453588
; Patent No. 5684145
;  GENERAL INFORMATION:
;    APPLICANT:  Anna van der Zee, Irma Marianne van Die,
;    APPLICANT:  Willem Pieter Martin Hoekstra,
;    APPLICANT:  Josephus Theodorus Gielen.
;    TITLE OF INVENTION:  Carrier system against GnRH
;    NUMBER OF SEQUENCES:  30
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Akzo No. 5684145el Patent Department
;      STREET:  1300 Piccard Drive, Suite 206
;      CITY:  Rockville
;      STATE:  Maryland
;      COUNTRY:  U.S.A.
;      ZIP:  20850
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/453,588
;      FILING DATE:  30-MAY-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/078,661
;      FILING DATE:  16-JUN-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mary E. Gormley
;      REGISTRATION NUMBER:  34,409
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (301) 258-5200
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-453-588-2


  Query Match             100.0%;  Score 58;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
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Db       2 HWSYGLRPG 10


RESULT  11
US-08-453-588-4
; Sequence 4, Application US/08453588
; Patent No. 5684145
;  GENERAL INFORMATION:
;    APPLICANT:  Anna van der Zee, Irma Marianne van Die,
;    APPLICANT:  Willem Pieter Martin Hoekstra,
;    APPLICANT:  Josephus Theodorus Gielen.
;    TITLE OF INVENTION:  Carrier system against GnRH
;    NUMBER OF SEQUENCES:  30
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Akzo No. 5684145el Patent Department
;      STREET:  1300 Piccard Drive, Suite 206
;      CITY:  Rockville
;      STATE:  Maryland
;      COUNTRY:  U.S.A.
;      ZIP:  20850
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/453,588
;      FILING DATE:  30-MAY-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/078,661
;      FILING DATE:  16-JUN-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mary E. Gormley
;      REGISTRATION NUMBER:  34,409
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (301) 258-5200
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-453-588-4


  Query Match             100.0%;  Score 58;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;
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Qy       1 HWSYGLRPG 9
           |||||||||
Db       2 HWSYGLRPG 10


RESULT  12
US-08-453-588-6
; Sequence 6, Application US/08453588
; Patent No. 5684145
;  GENERAL INFORMATION:
;    APPLICANT:  Anna van der Zee, Irma Marianne van Die,
;    APPLICANT:  Willem Pieter Martin Hoekstra,
;    APPLICANT:  Josephus Theodorus Gielen.
;    TITLE OF INVENTION:  Carrier system against GnRH
;    NUMBER OF SEQUENCES:  30
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Akzo No. 5684145el Patent Department
;      STREET:  1300 Piccard Drive, Suite 206
;      CITY:  Rockville
;      STATE:  Maryland
;      COUNTRY:  U.S.A.
;      ZIP:  20850
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/453,588
;      FILING DATE:  30-MAY-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/078,661
;      FILING DATE:  16-JUN-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mary E. Gormley
;      REGISTRATION NUMBER:  34,409
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (301) 258-5200
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-453-588-6


  Query Match             100.0%;  Score 58;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
           |||||||||
Db       2 HWSYGLRPG 10


RESULT  13
US-08-453-588-8
; Sequence 8, Application US/08453588
; Patent No. 5684145
;  GENERAL INFORMATION:
;    APPLICANT:  Anna van der Zee, Irma Marianne van Die,
;    APPLICANT:  Willem Pieter Martin Hoekstra,
;    APPLICANT:  Josephus Theodorus Gielen.
;    TITLE OF INVENTION:  Carrier system against GnRH
;    NUMBER OF SEQUENCES:  30
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Akzo No. 5684145el Patent Department
;      STREET:  1300 Piccard Drive, Suite 206
;      CITY:  Rockville
;      STATE:  Maryland
;      COUNTRY:  U.S.A.
;      ZIP:  20850
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/453,588
;      FILING DATE:  30-MAY-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/078,661
;      FILING DATE:  16-JUN-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mary E. Gormley
;      REGISTRATION NUMBER:  34,409
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (301) 258-5200
;  INFORMATION FOR SEQ ID NO:  8:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-453-588-8


  Query Match             100.0%;  Score 58;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
           |||||||||
Db       2 HWSYGLRPG 10


RESULT  14
US-08-453-588-10
; Sequence 10, Application US/08453588
; Patent No. 5684145
;  GENERAL INFORMATION:
;    APPLICANT:  Anna van der Zee, Irma Marianne van Die,
;    APPLICANT:  Willem Pieter Martin Hoekstra,
;    APPLICANT:  Josephus Theodorus Gielen.
;    TITLE OF INVENTION:  Carrier system against GnRH
;    NUMBER OF SEQUENCES:  30
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Akzo No. 5684145el Patent Department
;      STREET:  1300 Piccard Drive, Suite 206
;      CITY:  Rockville
;      STATE:  Maryland
;      COUNTRY:  U.S.A.
;      ZIP:  20850
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/453,588
;      FILING DATE:  30-MAY-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/078,661
;      FILING DATE:  16-JUN-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mary E. Gormley
;      REGISTRATION NUMBER:  34,409
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (301) 258-5200
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
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;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-453-588-10


  Query Match             100.0%;  Score 58;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
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Db       2 HWSYGLRPG 10


RESULT  15
US-08-453-588-12
; Sequence 12, Application US/08453588
; Patent No. 5684145
;  GENERAL INFORMATION:
;    APPLICANT:  Anna van der Zee, Irma Marianne van Die,
;    APPLICANT:  Willem Pieter Martin Hoekstra,
;    APPLICANT:  Josephus Theodorus Gielen.
;    TITLE OF INVENTION:  Carrier system against GnRH
;    NUMBER OF SEQUENCES:  30
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Akzo No. 5684145el Patent Department
;      STREET:  1300 Piccard Drive, Suite 206
;      CITY:  Rockville
;      STATE:  Maryland
;      COUNTRY:  U.S.A.
;      ZIP:  20850
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/453,588
;      FILING DATE:  30-MAY-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/078,661
;      FILING DATE:  16-JUN-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Mary E. Gormley
;      REGISTRATION NUMBER:  34,409
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (301) 258-5200
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  10 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-453-588-12


  Query Match             100.0%;  Score 58;  DB 1;  Length 10;
  Best Local Similarity   100.0%;  Pred. No. 0.00035;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 HWSYGLRPG 9
           |||||||||
Db       2 HWSYGLRPG 10


Search completed: March 13, 2002, 08:48:14
Job time: 142 sec
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OM protein - protein search, using sw model

Run on: March 13, 2002, 08:47:08 ; Search time 62.59 Seconds
(without alignments)
9.736 Million cell updates/sec

Title: US-09-462-089-3
Perfect score: 50
Sequence: 1 WSYGLRPG 8

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 219241 seqs, 76174552 residues

Total number of hits satisfying chosen parameters: 219241

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_68:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	50	100.0	10	1	RHPGG	gonadoliberin - pi
2	50	100.0	10	1	RHSHG	gonadoliberin - sh
3	50	100.0	67	2	I78541	gonadoliberin prec
4	50	100.0	89	2	I51423	gonadoliberin prec
5	50	100.0	90	1	RHMSG	gonadoliberin prec
6	50	100.0	92	1	RHHUG	gonadoliberin prec
7	50	100.0	92	1	RHRTG	gonadoliberin prec
8	46	92.0	10	1	RHAQ1	gonadoliberin I -
9	46	92.0	92	2	I50644	gonadoliberin I pr
10	44	88.0	98	2	I50739	gonadotropin-relea
11	40	80.0	80	1	RHID1S	gonadoliberin I pr
12	40	80.0	91	2	JC7393	medaka-type gonado
13	39	78.0	388	2	C72710	probable fmu prote
14	39	78.0	508	2	T01937	hypothetical prote
15	38	76.0	293	2	G72699	hypothetical prote
16	37	74.0	10	2	A21114	gonadoliberin - ch
17	37	74.0	74	2	I51092	gonadotropin relea
18	37	74.0	82	2	I51180	gonadotropin-relea
19	37	74.0	82	2	I51355	gonadotropin relea
20	37	74.0	82	2	I51365	gonadotropin-relea
21	37	74.0	82	2	I51331	gonadotropin relea
22	37	74.0	90	2	JC7395	salmon-type gonado
23	37	74.0	90	2	A23735	gonadoliberin prec
24	37	74.0	90	2	I51095	gonadoliberin prec
25	37	74.0	345	2	A58519	hypothetical 345 p
26	37	74.0	486	2	T26483	hypothetical prote
27	37	74.0	637	2	A72532	probable DNA-direc
28	37	74.0	812	2	T01618	hypothetical prote
29	36	72.0	601	2	D83583	probable acyl-CoA
30	36	72.0	719	2	T52510	hypothetical prote
31	36	72.0	741	2	A83271	hypothetical prote
32	36	72.0	1582	2	E70876	probable polyketid
33	35	70.0	256	2	S74928	hypothetical prote
34	35	70.0	308	2	D64696	hypothetical prote
35	35	70.0	323	2	C83282	hypothetical prote
36	35	70.0	371	1	E64821	yliI protein precu
37	35	70.0	371	2	A85594	probable dehydroge
38	35	70.0	408	2	F70369	carboxyl-terminal
39	35	70.0	544	2	T11216	reverse transcript
40	35	70.0	546	2	T11217	reverse transcript
41	35	70.0	584	2	S40013	hypothetical prote
42	35	70.0	643	2	E69334	acetyl-CoA synthet
43	35	70.0	691	2	D71430	hypothetical prote
44	35	70.0	966	2	T52413	H+-transporting AT
45	35	70.0	1150	2	A83978	pyruvate carboxyla

ALIGNMENTS

RESULT 1
RHPGG
gonadoliberin - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 13-Jul-1981 #sequence_revision 13-Jul-1981 #text_change 18-Mar-1997
C;Accession: A01411
R;Baba, Y.; Matsuo, H.; Schally, A.V.
Biochem. Biophys. Res. Commun. 44, 459-463, 1971
A;Title: Structure of the porcine LH- and FSH-releasing hormone. II. Confirmation of
A;Reference number: A90172; MUID:72114303
A;Accession: A01411
A;Molecule type: protein
A;Residues: 1-10 <BAB>
R;Matsuo, H.; Arimura, A.; Nair, R.M.G.; Schally, A.V.
Biochem. Biophys. Res. Commun. 45, 822-827, 1971
A;Title: Synthesis of the porcine LH- and FSH-releasing hormone by the solid-phase me
A;Reference number: A90176; MUID:72065376
A;Contents: annotation; synthesis
A;Note: the synthetic and natural hormones have the same physicochemical and biologic
R;Baba, Y.; Arimura, A.; Schally, A.V.
Biochem. Biophys. Res. Commun. 45, 483-487, 1971
A;Title: On the tryptophan residue in porcine LH and FSH-releasing hormone.
A;Reference number: A90175; MUID:72117544
A;Contents: annotation
A;Note: Trp-3 appears to be essential for biological activity
C;Comment: This hypothalamic hormone stimulates the secretion of both luteinizing and
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 100.0%; Score 50; DB 1; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.0029;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 WSYGLRPG 8
          ||||||||
Db      3 WSYGLRPG 10
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RESULT 2
RHSHG
gonadoliberin - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 18-Mar-1997
C;Accession: A93780; A01411
R;Burgus, R.; Butcher, M.; Amoss, M.; Ling, N.; Monahan, M.; Rivier, J.; Fellows, R.;
Proc. Natl. Acad. Sci. U.S.A. 69, 278-282, 1972
A;Title: Primary structure of the ovine hypothalamic luteinizing hormone-releasing fa
A;Reference number: A93780; MUID:72094314
A;Accession: A93780

A;Molecule type: protein
A;Residues: 1-10 <BUR>
A;Note: the natural and synthetic hormones have the same biological activity
C;Comment: This hypothalamic hormone stimulates the secretion of both luteinizing and fo
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 100.0%; Score 50; DB 1; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.0029;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||||||||
Db 3 WSYGLRPG 10

RESULT 3
I78541
gonadoliberin precursor - rhesus macaque (fragment)
N;Alternate names: luteinizing hormone releasing hormone
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
C;Accession: I78541
R;Ma, Y.J.; Costa, M.E.; Ojeda, S.R.
Neuroendocrinology 60, 346-359, 1994
A;Title: Developmental expression of the genes encoding transforming growth factor alpha
A;Reference number: I58134; MUID:95124501
A;Accession: I78541
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-67 <RES>
A;Cross-references: GB:S75918; NID:g912831; PIDN:AAB33096.1; PID:g912832
C;Superfamily: gonadoliberin

Query Match 100.0%; Score 50; DB 2; Length 67;
Best Local Similarity 100.0%; Pred. No. 0.021;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||||||||
Db 8 WSYGLRPG 15

RESULT 4
I51423
gonadoliberin precursor - African clawed frog
N;Alternate names: luteinizing hormone releasing hormone
C;Species: Xenopus laevis (African clawed frog)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C;Accession: I51423
R;Hayes, W.P.; Wray, S.; Battey, J.F.
Endocrinology 134, 1835-1845, 1994
A;Title: The frog GnRH-I gene has a mammalian-like expression pattern and conserved doma
A;Reference number: I51423; MUID:94185563
A;Accession: I51423
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-89 <HAY>
A;Cross-references: GB:L28040; NID:g496291; PIDN:AAA49728.1; PID:g496292
C;Genetics:
A;Gene: GnRH-I
C;Superfamily: gonadoliberin

Query Match 100.0%; Score 50; DB 2; Length 89;
Best Local Similarity 100.0%; Pred. No. 0.028;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||||||||
Db 26 WSYGLRPG 33

RESULT 5
RHMSG
gonadoliberin precursor - mouse
N;Alternate names: gonadotropin-releasing hormone (GnRH); luteinizing hormone releasi
N;Contains: gonadoliberin; gonadoliberin-associated protein (GAP)
C;Species: Mus musculus (house mouse)
C;Date: 31-Dec-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
C;Accession: A47578
R;Mason, A.J.; Hayflick, J.S.; Zoeller, R.T.; Young III, W.S.; Phillips, H.S.; Nikoli
Science 234, 1366-1371, 1986
A;Title: A deletion truncating the gonadotropin-releasing hormone gene is responsible
A;Reference number: A47578; MUID:87069928
A;Accession: A47578
A;Molecule type: DNA
A;Residues: 1-90 <MAS>
A;Cross-references: EMBL:M14872; NID:g193576; PIDN:AAA37717.1; PID:g387175
C;Genetics:
A;Introns: 45/3; 77/3
C;Function:
A;Description: gonadoliberin stimulates pituitary secretion of lutropin and follitrop
A;Note: gonadoliberin-associated protein may have prolactin release inhibiting activi
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1-23/Domain: signal sequence #status predicted <SIG>
F;22-31/Product: gonadoliberin #status predicted <GLB>
F;35-90/Product: gonadoliberin-associated protein #status predicted <GAP>
F;22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predic
F;31/Modified site: amidated carboxyl end (Gly) (amide in mature form from following

Query Match 100.0%; Score 50; DB 1; Length 90;
Best Local Similarity 100.0%; Pred. No. 0.028;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||||||||
Db 24 WSYGLRPG 31

RESULT 6
RHHUG
gonadoliberin precursor [validated] - human
N;Alternate names: gonadotropin releasing hormone (GnRH); luteinizing hormone releasi
N;Contains: gonadoliberin-associated protein (GAP); progonadoliberin
C;Species: Homo sapiens (man)
C;Date: 17-Mar-1987 #sequence_revision 21-Jul-1995 #text_change 08-Dec-2000
C;Accession: S05308; A26173; A93342; A90108; A01410; S45718
R;Hayflick, J.S.; Adelman, J.P.; Seeburg, P.H.
Nucleic Acids Res. 17, 6403-6404, 1989
A;Title: The complete nucleotide sequence of the human gonadotropin-releasing hormone
A;Reference number: S05308; MUID:89366682
A;Accession: S05308
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-92 <HAY>
A;Cross-references: EMBL:X15215; NID:g31955; PIDN:CAA33285.1; PID:g31956
R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H.
Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A;Title: Isolation of the gene and hypothalamic cDNA for the common precursor of gona
A;Reference number: A94090; MUID:86094338
A;Accession: A26173
A;Molecule type: mRNA
A;Residues: 1-92 <ADE>
A;Cross-references: GB:M12578; NID:g183418; PIDN:AAA35916.1; PID:g386749
A;Experimental source: hypothalamus
R;Seeburg, P.H.; Adelman, J.P.
Nature 311, 666-668, 1984
A;Title: Characterization of cDNA for precursor of human luteinizing hormone releasin
A;Reference number: A93342; MUID:85012739

A;Accession: A93342
A;Molecule type: mRNA
A;Residues: 1-15,'S',17-92 <SEE>
A;Cross-references: GB:X01059; NID:g34356; PIDN:CAA25526.1; PID:g34357
A;Experimental source: placenta
R;Tan, L.; Rousseau, P.
Biochem. Biophys. Res. Commun. 109, 1061-1071, 1982
A;Title: The chemical identity of the immunoreactive LHRH-like peptide biosynthesized in
A;Reference number: A90108; MUID:83126573
A;Accession: A90108
A;Molecule type: protein
A;Residues: 24-33 <TAN>
A;Experimental source: placental trophoblasts
R;Leibovitz, D.; Koch, Y.; Pitzer, F.; Fridkin, M.; Dantes, A.; Baumeister, W.; Amsterda
FEBS Lett. 346, 203-206, 1994
A;Title: Sequential degradation of the neuropeptide gonadotropin-releasing hormone by th
A;Reference number: S45718; MUID:94283597
A;Contents: annotation; degradation pathway of synthetic hormone
C;Genetics:
A;Gene: GDB:GNRH; LHRH; GRH
A;Cross-references: GDB:133746; OMIM:227200; OMIM:152760
A;Map position: 8p21-8p11.2
A;Introns: 47/3; 79/3
C;Function:
A;Description: gonadoliberin stimulates pituitary secretion of lutropin and follitropin
A;Note: gonadoliberin-associated protein may have prolactin release inhibiting activiy
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-92/Product: progonadoliberin #status predicted <PGN>
F;24-33/Product: gonadoliberin #status experimental <MAT>
F;37-92/Product: gonadoliberin-associated protein #status predicted <GAP>
F;24/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimen
F;33/Modified site: amidated carboxyl end (Gly) (amide in mature form from following gly

Query Match 100.0%; Score 50; DB 1; Length 92;
Best Local Similarity 100.0%; Pred. No. 0.029;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||||||||
Db 26 WSYGLRPG 33

RESULT 7
RHRTG
gonadoliberin precursor - rat
N;Alternate names: gonadoliberin-associated protein (GAP); gonadotropin releasing hormon
N;Contains: gonadoliberin; prolactin release-inhibiting factor
C;Species: Rattus norvegicus (Norway rat)
C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 18-Jun-1999
C;Accession: A40147; B26173; A48410
R;Bond, C.T.; Hayflick, J.S.; Seeburg, P.H.; Adelman, J.P.
Mol. Endocrinol. 3, 1257-1262, 1989
A;Title: The rat gonadotropin-releasing hormone: SH locus: structure and hypothalamic ex
A;Reference number: A40147; MUID:89384661
A;Accession: A40147
A;Molecule type: DNA
A;Residues: 1-92 <BON>
A;Cross-references: GB:M31670; NID:g204447; PIDN:AAA41264.1; PID:g204448
R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H.
Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A;Title: Isolation of the gene and hypothalamic cDNA for the common precursor of gonadot
A;Reference number: A94090; MUID:86094338
A;Accession: B26173
A;Molecule type: mRNA
A;Residues: 1-92 <ADE>
A;Cross-references: GB:M12579; NID:g204445; PIDN:AAA41263.1; PID:g204446
R;Maier, C.C.; Marchetti, B.; LeBoeuf, R.D.; Blalock, J.E.
Cell. Mol. Neurobiol. 12, 447-454, 1992
A;Title: Thymocytes express a mRNA that is identical to hypothalamic luteinizing hormone
A;Reference number: A48410; MUID:93105480

A;Accession: A48410
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-92 <MAI>
A;Cross-references: GB:S50870; NID:g262059; PIDN:AAB24572.1; PID:g262060
A;Experimental source: thymus
A;Note: sequence extracted from NCBI backbone (NCBIN:121082, NCBIP:121083)
C;Genetics:
A;Introns: 47/3; 79/3
C;Function:
A;Description: stimulates pituitary secretion of lutropin and follitropin
A;Note: gonadoliberin-associated protein may have prolactin release inhibiting activi
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-92/Product: progonadoliberin #status predicted <PGN>
F;24-33/Product: gonadoliberin #status predicted <GLN>
F;37-92/Product: prolactin release-inhibiting factor #status predicted <PIF>
F;24/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predic
F;33/Modified site: amidated carboxyl end (Gly) (amide in mature form from following

Query Match 100.0%; Score 50; DB 1; Length 92;
Best Local Similarity 100.0%; Pred. No. 0.029;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||||||||
Db 26 WSYGLRPG 33

RESULT 8
RHAQ1
gonadoliberin I - American alligator
N;Alternate names: gonadotropin-releasing hormone I
C;Species: Alligator mississippiensis (American alligator)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 18-Mar-1997
C;Accession: A60066
R;Lovejoy, D.A.; Fischer, W.H.; Parker, D.B.; McRory, J.E.; Park, M.; Lance, V.; Swan
Regul. Pept. 33, 105-116, 1991
A;Title: Primary structure of two forms of gonadotropin-releasing hormone from brains
A;Reference number: A60066; MUID:91352338
A;Accession: A60066
A;Molecule type: protein
A;Residues: 1-10 <LOV>
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 92.0%; Score 46; DB 1; Length 10;
Best Local Similarity 87.5%; Pred. No. 0.016;
Matches 7; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
|||||:||
Db 3 WSYGLQPG 10

RESULT 9
I50644
gonadoliberin I precursor - chicken
N;Alternate names: gonadotropin-releasing hormone I
C;Species: Gallus gallus (chicken)
C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 16-Jul-1999
C;Accession: I50644; S33507
R;Dunn, I.C.; Chen, Y.; Hook, C.; Sharp, P.J.; Sang, H.M.
J. Mol. Endocrinol. 11, 19-29, 1993
A;Title: Characterization of the chicken preprogonadotrophin-releasing hormone-I gene
A;Reference number: I50644; MUID:94059355
A;Accession: I50644
A;Status: translated from GB/EMBL/DDBJ

A;Molecule type: DNA
A;Residues: 1-92 <DU2>
A;Cross-references: EMBL:X69491; NID:g496326; PIDN:CAA49246.1; PID:g311612
C;Genetics:
A;Introns: 47/3; 79/3
C;Superfamily: gonadoliberin

Query Match 92.0%; Score 46; DB 2; Length 92;
Best Local Similarity 87.5%; Pred. No. 0.16;
Matches 7; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
|||||:||
Db 26 WSYGLQPG 33

RESULT 10
I50739
gonadotropin-releasing hormone - Cichlid (Haplochromis burtoni)
C;Species: Haplochromis burtoni
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C;Accession: I50739
R;White, S.A.; Kasten, T.L.; Bond, C.T.; Adelman, J.P.; Fernald, R.D.
Proc. Natl. Acad. Sci. U.S.A. 92, 8363-8367, 1995
A;Title: Three gonadotropin-releasing hormone genes in one organism suggest novel roles
A;Reference number: I50739; MUID:95396797
A;Accession: I50739
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-98 <WHI>
A;Cross-references: EMBL:U31865; NID:g905398; PIDN:AAC59691.1; PID:g905399
C;Superfamily: gonadoliberin

Query Match 88.0%; Score 44; DB 2; Length 98;
Best Local Similarity 87.5%; Pred. No. 0.39;
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||||| ||
Db 25 WSYGLSPG 32

RESULT 11
RHID1S
gonadoliberin I precursor - sharptooth catfish
N;Alternate names: gonadoliberin, catfish-type; gonadotropin-releasing hormone I (GnRH-I
N;Contains: gonadoliberin I; gonadoliberin I-associated protein form I; gonadoliberin I-
C;Species: Clarias gariepinus (sharptooth catfish)
C;Date: 30-Sep-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
C;Accession: S45602; S45601; JC1242; S42936; S42937
R;Bogerd, J.; Zandbergen, T.; Andersson, E.; Goos, H.
Eur. J. Biochem. 222, 541-549, 1994
A;Title: Isolation, characterization and expression of cDNAs encoding the catfish-type a
A;Reference number: S45600; MUID:94291651
A;Accession: S45602
A;Molecule type: mRNA
A;Residues: 1-80 <BOG1>
A;Cross-references: EMBL:X78049; NID:g459433; PIDN:CAA54971.1; PID:g459434
A;Note: gonadoliberin I-associated protein form I
A;Accession: S45601
A;Molecule type: mRNA
A;Residues: 1-46,'S',48-59,'G',61-80 <BOG2>
A;Cross-references: EMBL:X78048; NID:g459431; PIDN:CAA54970.1; PID:g459432
A;Note: gonadoliberin I-associated protein form II, presumed to be a polymorphic form
R;Bogerd, J.; Li, K.W.; Janssen-Dommerholt, C.; Goos, H.
Biochem. Biophys. Res. Commun. 187, 127-134, 1992
A;Title: Two gonadotropin-releasing hormones from African catfish (Clarias gariepinus)
A;Reference number: JC1242; MUID:92392313
A;Accession: JC1242
A;Molecule type: protein
A;Residues: 22-31 <BOG3>
A;Experimental source: brain
C;Superfamily: gonadoliberin
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-31/Product: gonadoliberin I #status experimental <MAT1>
F;35-80/Product: gonadoliberin I-associated protein #status predicted <MAT2>
F;22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experi
F;31/Modified site: amidated carboxyl end (Gly) (amide in mature form from following

Query Match 80.0%; Score 40; DB 1; Length 80;
Best Local Similarity 75.0%; Pred. No. 1.7;
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||:|| ||
Db 24 WSHGLNPG 31

RESULT 12
JC7393
medaka-type gonadotropin-releasing hormone precursor - Japanese medaka
C;Species: Oryzias latipes (Japanese medaka)
C;Date: 17-Nov-2000 #sequence_revision 17-Nov-2000 #text_change 17-Nov-2000
C;Accession: JC7393
R;Okubo, K.; Amano, M.; Yoshiura, Y.; Suetake, H.; Aida, K.
Biochem. Biophys. Res. Commun. 276, 298-303, 2000
A;Title: A novel form of gonadotropin-releasing hormone in the medaka, Oryzias latipe
A;Reference number: JC7393
A;Contents: Brain
A;Accession: JC7393
A;Molecule type: mRNA
A;Residues: 1-91 <OKU>
A;Cross-references: DDBJ:AB041333
C;Comment: This protein plays the roles as a hypophysiotropic factor, and a physiolog
C;Genetics:
A;Gene: mdgnrh
C;Keywords: brain

Query Match 80.0%; Score 40; DB 2; Length 91;
Best Local Similarity 75.0%; Pred. No. 1.9;
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||:|| ||
Db 24 WSFGLSPG 31

RESULT 13
C72710
probable fmu protein APE1098 - Aeropyrum pernix (strain K1)
C;Species: Aeropyrum pernix
C;Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 20-Aug-1999
C;Accession: C72710
R;Kawarabayasi, Y.; Hino, Y.; Horikawa, H.; Yamazaki, S.; Haikawa, Y.; Jin-no, K.; Ta
awa, H.; Takamiya, M.; Masuda, S.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.
DNA Res. 6, 83-101, 1999
A;Title: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aero
A;Reference number: A72450; MUID:99310339
A;Accession: C72710
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-388 <KAW>
A;Cross-references: DDBJ:AP000060; NID:g5104188; PIDN:BAA80083.1; PID:d1043869; PID:g
A;Experimental source: strain K1
C;Genetics:
A;Gene: APE1098

Query Match 78.0%; Score 39; DB 2; Length 388;
Best Local Similarity 85.7%; Pred. No. 13;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy       1 WSYGLRP 7
           ||:||||
Db     352 WSWGLRP 358
```

RESULT 14
T01937
hypothetical protein F11O4.7 - Arabidopsis thaliana (fragment)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 26-Feb-1999 #sequence_revision 26-Feb-1999 #text_change 24-Mar-1999
C;Accession: T01937
R;Abu-Threideh, J.; Stoneking, T.; Langston, Y.; Trevaskis, E.
submitted to the EMBL Data Library, October 1998
A;Description: The sequence of A. thaliana F11O4.
A;Reference number: Z14466
A;Accession: T01937
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-508 <ABU>
A;Cross-references: EMBL:AF096370; NID:g3695372; PID:g3695380
A;Experimental source: cultivar Columbia
C;Genetics:
A;Map position: 4
A;Note: F11O4.7

```
  Query Match            78.0%;  Score 39;  DB 2;  Length 508;
  Best Local Similarity  75.0%;  Pred. No. 18;
  Matches    6;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 WSYGLRPG 8
           | | |||:|
Db      80 WCYSLRPG 87
```

RESULT 15
G72699
hypothetical protein APE1014 - Aeropyrum pernix (strain K1)
C;Species: Aeropyrum pernix
C;Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 20-Jun-2000
C;Accession: G72699
R;Kawarabayasi, Y.; Hino, Y.; Horikawa, H.; Yamazaki, S.; Haikawa, Y.; Jin-no, K.; Takah
awa, H.; Takamiya, M.; Masuda, S.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; K
DNA Res. 6, 83-101, 1999
A;Title: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aeropyr
A;Reference number: A72450; MUID:99310339
A;Accession: G72699
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-293 <KAW>
A;Cross-references: DDBJ:AP000060; NID:g5104188; PIDN:BAA79999.1; PID:g5104684
A;Experimental source: strain K1
C;Genetics:
A;Gene: APE1014
C;Superfamily: Methanococcus jannaschii conserved hypothetical protein MJ1127

```
  Query Match            76.0%;  Score 38;  DB 2;  Length 293;
  Best Local Similarity  85.7%;  Pred. No. 15;
  Matches    6;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 WSYGLRP 7
           ||||| |
Db      47 WSYGLAP 53
```

Search completed: March 13, 2002, 08:47:09
Job time: 77 sec

GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 09:05:41 ; Search time 74.71 Seconds
(without alignments)
3.926 Million cell updates/sec

Title: US-09-462-089-3
Perfect score: 50
Sequence: 1 WSYGLRPG 8

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 100059 seqs, 36664827 residues

Total number of hits satisfying chosen parameters: 100059

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_39:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	50	100.0	61	1	GON1_SHEEP	Q28588 ovis aries
2	50	100.0	63	1	GON1_MESAU	O09163 mesocricetu
3	50	100.0	67	1	GON1_MACMU	P55247 macaca mula
4	50	100.0	89	1	GON1_XENLA	P45656 xenopus lae
5	50	100.0	90	1	GON1_MOUSE	P13562 mus musculu
6	50	100.0	91	1	GON1_PIG	P49921 sus scrofa
7	50	100.0	92	1	GON1_HUMAN	P01148 homo sapien
8	50	100.0	92	1	GON1_RAT	P07490 rattus norv
9	50	100.0	92	1	GON1_TUPGB	Q95335 tupaia glis
10	47	94.0	92	1	GON1_CAVPO	O54713 cavia porce
11	46	92.0	10	1	GON1_ALLMI	P37041 alligator m
12	46	92.0	92	1	GON1_CHICK	P37042 gallus gall
13	44	88.0	94	1	GON1_HAPBU	P51918 haplochromi
14	44	88.0	95	1	GON1_MORSA	O73812 morone saxa
15	44	88.0	95	1	GON1_PAGMA	P70074 pagrus majo
16	44	88.0	95	1	GON1_SPAAU	P51919 sparus aura
17	44	88.0	99	1	GON1_DICLA	Q9ia10 dicentrarch
18	40	80.0	80	1	GON1_CLAGA	P33439 clarias gar
19	39	78.0	10	1	GON1_CLUPA	P81749 clupea pall
20	37	74.0	10	1	GON3_ONCKE	P20367 oncorhynchu
21	37	74.0	74	1	GON3_ONCMY	P55246 oncorhynchu
22	37	74.0	74	1	GON3_ONCTS	Q92097 oncorhynchu
23	37	74.0	82	1	GON3_ONCMA	P30973 oncorhynchu
24	37	74.0	82	1	GON3_SALSA	P35629 salmo salar
25	37	74.0	82	1	GON3_SALTR	P45653 salmo trutt
26	37	74.0	89	1	GON3_PORNO	P51922 porichthys
27	37	74.0	90	1	GON3_DICLA	Q9ia09 dicentrarch
28	37	74.0	90	1	GON3_HAPBU	P45652 haplochromi
29	37	74.0	90	1	GON3_PAGMA	P51921 pagrus majo
30	37	74.0	90	1	GON3_SPAAU	P51923 sparus aura
31	37	74.0	94	1	GON3_CARAU	P51917 carassius a
32	37	74.0	94	1	GON3_RUTRU	Q92106 rutilus rut
33	35	70.0	184	1	DEF2_BACST	O31410 bacillus st
34	35	70.0	371	1	YLII_ECOLI	P75804 escherichia
35	35	70.0	1997	1	PTPB_HUMAN	P23467 homo sapien
36	34	68.0	240	1	PRA_MYCTU	O53426 mycobacteri
37	34	68.0	249	1	PRA_MYCLE	P41484 mycobacteri
38	34	68.0	288	1	A41_LEIDO	P55905 leishmania
39	34	68.0	354	1	MBHS_WOLSU	P31884 wolinella s
40	34	68.0	408	1	SEPR_THESR	P80146 thermus sp.
41	34	68.0	434	1	ACEA_ECOLI	P05313 escherichia
42	34	68.0	680	1	KALM_HUMAN	P23352 homo sapien
43	34	68.0	954	1	PMA9_ARATH	Q42556 arabidopsis
44	34	68.0	956	1	PMAB_ARATH	Q91v11 arabidopsis
45	33	66.0	110	1	YHBJ_ACTAC	P96769 actinobacil

ALIGNMENTS

RESULT 1
GON1_SHEEP
ID GON1_SHEEP STANDARD; PRT; 61 AA.
AC Q28588;
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I]
DE (FRAGMENT).
GN GNRH1 OR GNRH OR LHRH.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
RP SEQUENCE OF 12-61 FROM N.A.
RC STRAIN=WESTERN RANGE; TISSUE=Hypothalamus;
RA Rodriguez R.E., Wise M.E.;
RL Submitted (OCT-1993) to the EMBL/GenBank/DDBJ databases.
RN [2]
RP SEQUENCE OF 1-10.
RX MEDLINE=72094314; PubMed=4550508;
RA Burgus R., Butcher M., Amoss M., Ling N., Monahan M., Rivier J.,
RA Fellows R., Blackwell R., Vale W., Guillemin R.;
RT "Primary structure of the ovine hypothalamic luteinizing hormone-
RT releasing factor (LRF) (LH-hypothalamus-LRF-gas chromatography-mass
RT spectrometry-decapeptide-Edman degradation).";
RL Proc. Natl. Acad. Sci. U.S.A. 69:278-282(1972).
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC HORMONES.
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC ----------

CC ----------
DR EMBL; U02517; AAA03433.1; -.
DR PIR; A93780; RHSHG.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Placenta.
FT NON_TER 1 1
FT CHAIN 1 >61 PROGONADOLIBERIN I.
FT PEPTIDE 1 10 GONADOLIBERIN I.
FT PEPTIDE 14 >61 GNRH-ASSOCIATED PEPTIDE I.
FT ACT_SITE 3 3 APPEARS TO BE ESSENTIAL FOR BIOLOGICAL

```
FT                                ACTIVITY.
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      10     10       AMIDATION (G-11 PROVIDE AMIDE GROUP).
FT   NON_TER      61     61
SQ   SEQUENCE   61 AA;  6828 MW;  63962A1AE319B8F0 CRC64;


  Query Match             100.0%;  Score 50;  DB 1;  Length 61;
  Best Local Similarity   100.0%;  Pred. No. 0.0053;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||||||
Db      3 WSYGLRPG 10


RESULT   2
GON1_MESAU
ID   GON1_MESAU     STANDARD;      PRT;    63 AA.
AC   O09163;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I]
DE   (FRAGMENT).
GN   GNRH1 OR GNRH OR LHRH.
OS   Mesocricetus auratus (Golden hamster).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC   Mesocricetus.
OX   NCBI_TaxID=10036;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Jansen H.T., Stevens P.J., Zeitler P., Lehman M.N.;
RL   Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U91938; AAB51302.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta.
FT   NON_TER       1      1
FT   CHAIN         1    >63       PROGONADOLIBERIN I.
FT   PEPTIDE       1     10       GONADOLIBERIN I.
FT   PEPTIDE      14    >63       GNRH-ASSOCIATED PEPTIDE I (BY
FT                                SIMILARITY).
FT   ACT_SITE      3      3       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY (BY SIMILARITY).
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      10     10       AMIDATION (G-11 PROVIDE AMIDE GROUP) (BY
FT                                SIMILARITY).
FT   NON_TER      63     63
SQ   SEQUENCE   63 AA;  7370 MW;  FC94995676F77180 CRC64;


  Query Match             100.0%;  Score 50;  DB 1;  Length 63;
  Best Local Similarity   100.0%;  Pred. No. 0.0055;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||||||
Db      3 WSYGLRPG 10


RESULT   3
GON1_MACMU
ID   GON1_MACMU     STANDARD;      PRT;    67 AA.
AC   P55247;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I]
DE   (FRAGMENT).
GN   GNRH1 OR GNRH OR LHRH.
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
OC   Cercopithecinae; Macaca.
OX   NCBI_TaxID=9544;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Hypothalamus;
RX   MEDLINE=95124501; PubMed=7545971;
RA   Ma Y.J., Costa M.E., Ojeda S.R.;
RT   "Developmental expression of the genes encoding transforming growth
RT   factor alpha and its receptor in the hypothalamus of female rhesus
RT   macaques.";
RL   Neuroendocrinology 60:346-359(1994).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; S75918; AAB33096.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1      5       BY SIMILARITY.
FT   CHAIN         6    >67       PROGONADOLIBERIN I.
FT   PEPTIDE       6     15       GONADOLIBERIN I.
FT   PEPTIDE      19    >67       GNRH-ASSOCIATED PEPTIDE I.
FT   ACT_SITE      8      8       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY (BY SIMILARITY).
FT   MOD_RES       6      6       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      15     15       AMIDATION (G-16 PROVIDE AMIDE GROUP) (BY
FT                                SIMILARITY).
FT   NON_TER      67     67
SQ   SEQUENCE   67 AA;  7573 MW;  505394DAA261A3F2 CRC64;


  Query Match             100.0%;  Score 50;  DB 1;  Length 67;
  Best Local Similarity   100.0%;  Pred. No. 0.0058;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||||||
```

```
Db      8 WSYGLRPG 15


RESULT   4
GON1_XENLA
ID   GON1_XENLA     STANDARD;      PRT;    89 AA.
AC   P45656;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH) (LULIBERIN I).
OS   Xenopus laevis (African clawed frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
OC   Xenopodinae; Xenopus.
OX   NCBI_TaxID=8355;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Forebrain;
RX   MEDLINE=94185563; PubMed=8137750;
RA   Hayes W.P., Wray S., Battey J.F.;
RT   "The frog gonadotropin-releasing hormone-I (GnRH-I) gene has a
RT   mammalian-like expression pattern and conserved domains in
RT   GnRH-associated peptide, but brain onset is delayed until
RT   metamorphosis.";
RL   Endocrinology 134:1835-1844(1994).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
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CC   ---------------------------------------------------------------------
DR   EMBL; L28040; AAA49728.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal.
FT   SIGNAL       1     23
FT   CHAIN       24     89       PROGONADOLIBERIN I.
FT   PEPTIDE     24     33       GONADOLIBERIN I.
FT   CHAIN       37     89       GONADOTROPIN-RELEASING HORMONE ASSOCIATED
FT                               PEPTIDE.
FT   PEPTIDE     37     85       GNRH-ASSOCIATED PEPTIDE I (GAP).
FT   MOD_RES     24     24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES     33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   89 AA;  10246 MW;  6F4F36FBAE0D4284 CRC64;


  Query Match             100.0%;  Score 50;  DB 1;  Length 89;
  Best Local Similarity   100.0%;  Pred. No. 0.0077;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||||||
Db     26 WSYGLRPG 33


RESULT   5
GON1_MOUSE
ID   GON1_MOUSE     STANDARD;      PRT;    90 AA.
AC   P13562;
DT   01-JAN-1990 (Rel. 13, Created)
DT   01-JAN-1990 (Rel. 13, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); PROLACTIN RELEASE-INHIBITING FACTOR
DE   I].
GN   GNRH1 OR GNRH.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=87069928; PubMed=3024317;
RA   Mason A.J., Hayflick J.S., Zoeller R.T., Young W.S. III,
RA   Phillips H.S., Nikolics K., Seeburg P.H.;
RT   "A deletion truncating the gonadotropin-releasing hormone gene is
RT   responsible for hypogonadism in the hpg mouse.";
RL   Science 234:1366-1371(1986).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M14872; AAA37717.1; -.
DR   MGD; MGI:95789; Gnrh.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Signal.
FT   SIGNAL       1     21
FT   CHAIN       22     90       PROGONADOLIBERIN I.
FT   PEPTIDE     22     31       GONADOLIBERIN I.
FT   PEPTIDE     35     90       PROLACTIN RELEASE-INHIBITING FACTOR I.
FT   ACT_SITE    24     24       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                               ACTIVITY.
FT   MOD_RES     22     22       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES     31     31       AMIDATION (G-32 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   90 AA;  10337 MW;  1C0766FA4826E4D9 CRC64;


  Query Match             100.0%;  Score 50;  DB 1;  Length 90;
  Best Local Similarity   100.0%;  Pred. No. 0.0078;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||||||
Db     24 WSYGLRPG 31


RESULT   6
GON1_PIG
ID   GON1_PIG       STANDARD;      PRT;    91 AA.
AC   P49921;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
GN   GNRH1 OR GNRH.
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Hypothalamus;
```

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RA   Weesner G.D., Matteri R.L., Becker B.A.;
RL   Submitted (MAY-1994) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE OF 24-33.
RX   MEDLINE=72114303; PubMed=4946067;
RA   Baba Y., Matsuo H., Schally A.V.;
RT   "Structure of the porcine LH- and FSH-releasing hormone. II.
RT   Confirmation of the proposed structure by conventional sequential
RT   analyses.";
RL   Biochem. Biophys. Res. Commun. 44:459-463(1971).
RN   [3]
RP   SYNTHESIS OF GONADOLIBERIN.
RX   MEDLINE=72065376; PubMed=4942726;
RA   Matsuo H., Arimura A., Nair R.M.G., Schally A.V.;
RT   "Synthesis of the porcine LH- and FSH-releasing hormone by the solid-
RT   phase method.";
RL   Biochem. Biophys. Res. Commun. 45:822-827(1971).
RN   [4]
RP   SYNTHESIS OF GONADOLIBERIN.
RX   MEDLINE=72117544; PubMed=4946275;
RA   Baba Y., Arimura A., Schally A.V.;
RT   "On the tryptophan residue in porcine LH and FSH-releasing hormone.";
RL   Biochem. Biophys. Res. Commun. 45:483-487(1971).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; L32864; AAA31066.1; -.
DR   PIR; A01411; RHPGG.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Signal.
FT   SIGNAL       1     23
FT   CHAIN       24     91       PROGONADOLIBERIN I.
FT   PEPTIDE     24     33       GONADOLIBERIN I.
FT   PEPTIDE     34     91       GNRH-ASSOCIATED PEPTIDE I.
FT   ACT_SITE    26     26       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                               ACTIVITY.
FT   MOD_RES     24     24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES     33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   91 AA;  10090 MW;  8340474F32DDAA99 CRC64;


  Query Match             100.0%;  Score 50;  DB 1;  Length 91;
  Best Local Similarity   100.0%;  Pred. No. 0.0079;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 WSYGLRPG 8
           ||||||||
Db      26 WSYGLRPG 33


RESULT   7
GON1_HUMAN
ID   GON1_HUMAN     STANDARD;      PRT;    92 AA.
AC   P01148;
DT   21-JUL-1986 (Rel. 01, Created)
DT   01-APR-1988 (Rel. 07, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I) (GONADORELIN); GNRH-ASSOCIATED
DE   PEPTIDE I].
GN   GNRH1 OR GNRH OR LHRH.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89366682; PubMed=2671939;
RA   Hayflick J.S., Adelman J.P., Seeburg P.H.;
RT   "The complete nucleotide sequence of the human gonadotropin-releasing
RT   hormone gene.";
RL   Nucleic Acids Res. 17:6403-6403(1989).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86094338; PubMed=2867548;
RA   Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.;
RT   "Isolation of the gene and hypothalamic cDNA for the common precursor
RT   of gonadotropin-releasing hormone and prolactin release-inhibiting
RT   factor in human and rat.";
RL   Proc. Natl. Acad. Sci. U.S.A. 83:179-183(1986).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=85012739; PubMed=6090951;
RA   Seeburg P.H., Adelman J.P.;
RT   "Characterization of cDNA for precursor of human luteinizing hormone
RT   releasing hormone.";
RL   Nature 311:666-668(1984).
RN   [4]
RP   SEQUENCE OF 24-33.
RX   MEDLINE=83126573; PubMed=6760865;
RA   Tan L., Rousseau P.;
RT   "The chemical identity of the immunoreactive LHRH-like peptide
RT   biosynthesized in the human placenta.";
RL   Biochem. Biophys. Res. Commun. 109:1061-1071(1982).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- PHARMACEUTICAL: AVAILABLE UNDER THE NAMES FACTREL (AYERST LABS),
CC       LUTREPULSE OR LUTRELEF (FERRING PHARMACEUTICALS) AND RELISORM
CC       (SERONO).
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X01059; CAA25526.1; -.
DR   EMBL; M12578; AAA35916.1; -.
DR   EMBL; X15215; CAA33285.1; -.
DR   PIR; A01410; RHHUG.
DR   PIR; A26173; A26173.
DR   PIR; S05308; S05308.
DR   MIM; 152760; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Pharmaceutical; Signal.
FT   SIGNAL       1     23
FT   CHAIN       24     92       PROGONADOLIBERIN I.
FT   PEPTIDE     24     33       GONADOLIBERIN I.
FT   PEPTIDE     37     92       GNRH-ASSOCIATED PEPTIDE I.
FT   ACT_SITE    26     26       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                               ACTIVITY.
FT   MOD_RES     24     24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES     33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
FT   CONFLICT    16     16       W -> S (IN REF. 3).
SQ   SEQUENCE   92 AA;  10380 MW;  30A72221B076FA79 CRC64;
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  Query Match             100.0%;  Score 50;  DB 1;  Length 92;
  Best Local Similarity   100.0%;  Pred. No. 0.0079;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 WSYGLRPG 8
           ||||||||
Db      26 WSYGLRPG 33


RESULT   8
GON1_RAT
ID   GON1_RAT       STANDARD;      PRT;    92 AA.
AC   P07490;
DT   01-APR-1988 (Rel. 07, Created)
DT   01-APR-1988 (Rel. 07, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); PROLACTIN RELEASE-INHIBITING FACTOR
DE   I].
GN   GNRH1 OR GNRH.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86094338; PubMed=2867548;
RA   Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.;
RT   "Isolation of the gene and hypothalamic cDNA for the common precursor
RT   of gonadotropin-releasing hormone and prolactin release-inhibiting
RT   factor in human and rat.";
RL   Proc. Natl. Acad. Sci. U.S.A. 83:179-183(1986).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89384661; PubMed=2476669;
RA   Bond C.T., Hayflick J.S., Seeburg P.H., Adelman J.P.;
RT   "The rat gonadotropin-releasing hormone: SH locus: structure and
RT   hypothalamic expression.";
RL   Mol. Endocrinol. 3:1257-1262(1989).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Thymus;
RX   MEDLINE=93105480; PubMed=1468115;
RA   Maier C.C., Marchetti B., Leboeuf R.D., Blalock J.E.;
RT   "Thymocytes express a mRNA that is identical to hypothalamic
RT   luteinizing hormone-releasing hormone mRNA.";
RL   Cell. Mol. Neurobiol. 12:447-454(1992).
RN   [4]
RP   SEQUENCE OF 1-47 FROM N.A.
RC   TISSUE=Heart;
RX   MEDLINE=87149087; PubMed=3547652;
RA   Adelman J.P., Bond C.T., Douglass J., Herbert E.;
RT   "Two mammalian genes transcribed from opposite strands of the same
RT   DNA locus.";
RL   Science 235:1514-1517(1987).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- TISSUE SPECIFICITY: CENTRAL NERVOUS SYSTEM.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; S50870; AAB24572.1; -.
DR   EMBL; M12579; AAA41263.1; -.
DR   EMBL; M31670; AAA41264.1; -.
DR   EMBL; M15527; AAA42141.1; ALT_SEQ.
DR   EMBL; M15529; AAA42139.1; -.
DR   EMBL; M15528; -; NOT_ANNOTATED_CDS.
DR   PIR; B26173; RHRTG.
DR   PIR; A48410; A48410.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Signal.
FT   SIGNAL        1     23
FT   CHAIN         24    92       PROGONADOLIBERIN I.
FT   PEPTIDE       24    33       GONADOLIBERIN I.
FT   PEPTIDE       37    92       PROLACTIN RELEASE-INHIBITING FACTOR I.
FT   ACT_SITE      26    26       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY.
FT   MOD_RES       24    24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES       33    33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   92 AA;  10500 MW;  494B5C64DA8A3EB3 CRC64;


  Query Match             100.0%;  Score 50;  DB 1;  Length 92;
  Best Local Similarity   100.0%;  Pred. No. 0.0079;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 WSYGLRPG 8
           ||||||||
Db      26 WSYGLRPG 33


RESULT   9
GON1_TUPGB
ID   GON1_TUPGB     STANDARD;      PRT;    92 AA.
AC   Q95335;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
GN   GNRH1 OR GNRH.
OS   Tupaia glis belangeri (Common tree shrew).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Scandentia; Tupaiidae; Tupaia.
OX   NCBI_TaxID=9396;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Hypothalamus;
RX   MEDLINE=97079639; PubMed=8921350;
RA   Kasten T.L., White S.A., Norton T.T., Bond C.T., Adelman J.P.,
RA   Fernald R.D.;
RT   "Characterization of two new preproGnRH mRNAs in the tree shrew:
RT   first direct evidence for mesencephalic GnRH gene expression in a
RT   placental mammal.";
RL   Gen. Comp. Endocrinol. 104:7-19(1996).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U63326; AAB16837.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
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DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Signal.
FT   SIGNAL        1     23       BY SIMILARITY.
FT   CHAIN        24     92       PROGONADOLIBERIN I.
FT   PEPTIDE      24     33       GONADOLIBERIN I.
FT   PEPTIDE      37     92       GNRH-ASSOCIATED PEPTIDE I.
FT   ACT_SITE     26     26       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY.
FT   MOD_RES      24     24       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP) (BY
FT                                SIMILARITY).
SQ   SEQUENCE   92 AA;  10197 MW;  4FDBF2C58CF5F63B CRC64;


  Query Match             100.0%;  Score 50;  DB 1;  Length 92;
  Best Local Similarity   100.0%;  Pred. No. 0.0079;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||||||
Db     26 WSYGLRPG 33


RESULT  10
GON1_CAVPO
ID   GON1_CAVPO     STANDARD;      PRT;    92 AA.
AC   O54713;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
GN   GNRH1 OR GNRH OR LHRH.
OS   Cavia porcellus (Guinea pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX   NCBI_TaxID=10141;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=HARTLEY WHITE; TISSUE=Hypothalamus;
RX   MEDLINE=97462693; PubMed=9322920;
RA   Jimenez-Linan M., Rubin B.S., King J.C.;
RT   "Examination of guinea pig luteinizing hormone-releasing hormone gene
RT   reveals a unique decapeptide and existence of two transcripts in the
RT   brain.";
RL   Endocrinology 138:4123-4130(1997).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS; IT STIMULATES
CC       THE SECRETION OF BOTH LUTEINIZING AND FOLLICLE-STIMULATING
CC       HORMONES.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AF033346; AAB87688.1; -.
DR   InterPro; IPR002012; GnRH.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Placenta; Signal.
FT   SIGNAL        1     23       POTENTIAL.
FT   CHAIN        24     92       PROGONADOLIBERIN I.
FT   PEPTIDE      24     33       GONADOLIBERIN I.
FT   PEPTIDE      37     92       GNRH-ASSOCIATED PEPTIDE I.
FT   ACT_SITE     26     26       APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT                                ACTIVITY (BY SIMILARITY).
FT   MOD_RES      24     24       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP) (BY
FT                                SIMILARITY).
SQ   SEQUENCE   92 AA;  10279 MW;  ACF74613F456D663 CRC64;


  Query Match             94.0%;  Score 47;  DB 1;  Length 92;
  Best Local Similarity   87.5%;  Pred. No. 0.03;
  Matches    7;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||:|||
Db     26 WSYGVRPG 33


RESULT  11
GON1_ALLMI
ID   GON1_ALLMI     STANDARD;      PRT;    10 AA.
AC   P37041; P20407;
DT   01-FEB-1991 (Rel. 17, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   15-DEC-1998 (Rel. 37, Last annotation update)
DE   GONADOLIBERIN I (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I) (LH-RH I)
DE   (LULIBERIN I).
OS   Alligator mississippiensis (American alligator).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Crocodylidae; Alligatorinae; Alligator.
OX   NCBI_TaxID=8496;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Brain;
RX   MEDLINE=91352338; PubMed=1882082;
RA   Lovejoy D.A., Fischer W.H., Parker D.B., McRory J.E., Park M.,
RA   Lance V., Swanson P., Rivier J.E., Sherwood N.M.;
RT   "Primary structure of two forms of gonadotropin-releasing hormone
RT   from brains of the American alligator (Alligator mississippiensis).";
RL   Regul. Pept. 33:105-116(1991).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR   PIR; A60066; RHAQ1.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Hormone; Amidation; Hypothalamus.
FT   MOD_RES       1      1       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      10     10       AMIDATION.
SQ   SEQUENCE   10 AA;  1172 MW;  284B23D7286B45A3 CRC64;


  Query Match             92.0%;  Score 46;  DB 1;  Length 10;
  Best Local Similarity   87.5%;  Pred. No. 0.0052;
  Matches    7;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          |||||:||
Db      3 WSYGLQPG 10


RESULT  12
GON1_CHICK
ID   GON1_CHICK     STANDARD;      PRT;    92 AA.
AC   P37042; P20407;
DT   01-FEB-1991 (Rel. 17, Created)
DT   01-JUN-1994 (Rel. 29, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   PROGONADOLIBERIN I PRECURSOR [CONTAINS: GONADOLIBERIN I (LHRH I)
DE   (LUTEINIZING HORMONE RELEASING HORMONE I) (GONADOTROPIN RELEASING
DE   HORMONE I) (GNRH I) (LULIBERIN I); GNRH-ASSOCIATED PEPTIDE I].
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
```

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OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=WHITE LEGHORN;
RX   MEDLINE=94059355; PubMed=7902095;
RA   Dunn I.C., Chen Y., Hook C., Sharp P.J., Sang H.M.;
RT   "Characterization of the chicken preprogonadotrophin-releasing
RT   hormone-I gene.";
RL   J. Mol. Endocrinol. 11:19-29(1993).
RN   [2]
RP   SEQUENCE OF 24-33.
RC   TISSUE=Hypothalamus;
RX   MEDLINE=82265778; PubMed=7050119;
RA   King J.A., Millar R.P.;
RT   "Structure of chicken hypothalamic luteinizing hormone-releasing
RT   hormone. II. Isolation and characterization.";
RL   J. Biol. Chem. 257:10729-10732(1982).
RN   [3]
RP   SEQUENCE OF 24-33.
RC   TISSUE=Hypothalamus;
RA   King J.A., Millar R.P.;
RT   "Structure of avian hypothalamic gonadotrophin-releasing hormone.";
RL   S. Afr. J. Sci. 78:124-125(1982).
RN   [4]
RP   SYNTHESIS OF 24-33.
RX   MEDLINE=82265777; PubMed=7050118;
RA   King J.A., Millar R.P.;
RT   "Structure of chicken hypothalamic luteinizing hormone-releasing
RT   hormone. I. Structural determination on partially purified
RT   material.";
RL   J. Biol. Chem. 257:10722-10728(1982).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ----------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; X69491; CAA49246.1; -.
DR   PIR; S33507; S33507.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal.
FT   SIGNAL        1     23
FT   CHAIN        24     92       PROGONADOLIBERIN I.
FT   PEPTIDE      24     33       GONADOLIBERIN I.
FT   PEPTIDE      37     92       GNRH-ASSOCIATED PEPTIDE I.
FT   MOD_RES      24     24       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ   SEQUENCE   92 AA;  10206 MW;  61AEB7EBAF508B6A CRC64;


  Query Match             92.0%;  Score 46;  DB 1;  Length 92;
  Best Local Similarity   87.5%;  Pred. No. 0.046;
  Matches    7;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 WSYGLRPG 8
            |||||:||
Db      26 WSYGLQPG 33


RESULT  13
GON1_HAPBU
ID   GON1_HAPBU     STANDARD;      PRT;    94 AA.
AC   P51918; O93387;
DT   01-OCT-1996 (Rel. 34, Created)
DT   30-MAY-2000 (Rel. 39, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH I) (LULIBERIN I).
GN   GNRH1.
OS   Haplochromis burtoni (Burton's mouthbrooder).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidei;
OC   Cichlidae; Astatotilapia.
OX   NCBI_TaxID=8153;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95396797; PubMed=7667296;
RA   White S.A., Kasten T.L., Bond C.T., Adelman J.P., Fernald R.D.;
RT   "Three gonadotropin-releasing hormone genes in one organism suggest
RT   novel roles for an ancient peptide.";
RL   Proc. Natl. Acad. Sci. U.S.A. 92:8363-8367(1995).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99061842; PubMed=9843638;
RA   White R.B., Fernald R.D.;
RT   "Ontogeny of gonadotropin-releasing hormone (GnRH) gene expression
RT   reveals a distinct origin for GnRH-containing neurons in the
RT   midbrain.";
RL   Gen. Comp. Endocrinol. 112:322-329(1998).
RN   [3]
RP   SEQUENCE OF 23-32.
RC   TISSUE=Pituitary;
RX   MEDLINE=95372591; PubMed=7644702;
RA   Powell J.F.F., Fischer W.H., Park M., Craig A.G., Rivier J.E.,
RA   White S.A., Francis R.C., Fernald R.D., Licht P., Warby C.,
RA   Sherwood N.M.;
RT   "Primary structure of solitary form of gonadotropin-releasing hormone
RT   (GnRH) in cichlid pituitary; three forms of GnRH in brain of cichlid
RT   and pumpkinseed fish.";
RL   Regul. Pept. 57:43-53(1995).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS. MAY BE
CC       RESPONSIBLE FOR THE REGULATION OF THE HYPOTHALAMIC-PITUITARY-
CC       GONADAL AXIS.
CC   -!- TISSUE SPECIFICITY: SYNTHESIZED IN PREOPTIC NEURONS AND IS
CC       TRANSPORTED TO THE PITUITARY IN THE PREOPTIC-HYPOPHYSEAL AXONS.
CC   -!- MASS SPECTROMETRY: MW=1113.9; METHOD=MALDI; RANGE=23-32.
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ----------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; U31865; AAC59691.1; -.
DR   EMBL; AF076961; AAC27716.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal; Multigene family.
FT   SIGNAL        1     22
FT   CHAIN        23     94       PROGONADOLIBERIN I.
FT   PEPTIDE      23     32       GONADOLIBERIN I.
FT   PEPTIDE      36     94       GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT   MOD_RES      23     23       PYRROLIDONE CARBOXYLIC ACID.
FT   MOD_RES      32     32       AMIDATION (G-33 PROVIDE AMIDE GROUP).
FT   CONFLICT     86     94       ENGHRTFKK -> KMDTGHSRNERFL (IN REF. 1).
SQ   SEQUENCE   94 AA;  10382 MW;  E57DBA83333278D7 CRC64;


  Query Match             88.0%;  Score 44;  DB 1;  Length 94;
  Best Local Similarity   87.5%;  Pred. No. 0.11;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;
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Qy      1 WSYGLRPG 8
          ||||| ||
Db     25 WSYGLSPG 32


RESULT  14
GON1_MORSA
ID   GON1_MORSA     STANDARD;      PRT;    95 AA.
AC   O73812;
DT   20-AUG-2001 (Rel. 40, Created)
DT   20-AUG-2001 (Rel. 40, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH I) (LULIBERIN I).
GN   GNRH1.
OS   Morone saxatilis (Striped bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=34816;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Chow M.M., Kight K.E., Gothilf Y., Alok D., Zohar Y.;
RT   "Multiple GnRHs present in a teleost species are encoded by separate
RT   genes: analysis of the sbGnRH and cGnRH-II genes from the striped
RT   bass, Morone saxatilis.";
RL   Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AF056314; AAD03817.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal; Multigene family.
FT   SIGNAL        1     22       POTENTIAL.
FT   CHAIN        23     95       PROGONADOLIBERIN I.
FT   PEPTIDE      23     32       GONADOLIBERIN I.
FT   PEPTIDE      36     95       GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT   MOD_RES      23     23       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      32     32       AMIDATION (G-33 PROVIDE AMIDE GROUP)
FT                                (BY SIMILARITY).
SQ   SEQUENCE   95 AA;  10411 MW;  980C6988FC279BFC CRC64;


  Query Match          88.0%;  Score 44;  DB 1;  Length 95;
  Best Local Similarity   87.5%;  Pred. No. 0.11;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||| ||
Db     25 WSYGLSPG 32


RESULT  15
GON1_PAGMA
ID   GON1_PAGMA     STANDARD;      PRT;    95 AA.
AC   P70074;
DT   15-JUL-1998 (Rel. 36, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   GONADOLIBERIN I PRECURSOR (GONADOTROPIN-RELEASING HORMONE I) (GNRH-I)
DE   (LH-RH I) (LULIBERIN I).
GN   GNRH1.
OS   Pagrus major (Red sea bream) (Chrysophrys major).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Pagrus.
OX   NCBI_TaxID=143350;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Brain;
RA   Okuzawa K., Granneman J., Bogerd J., Goos H., Zohar Y., Kagawa H.;
RL   Submitted (SEP-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; D86582; BAA13129.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW   Signal; Multigene family.
FT   SIGNAL        1     23       POTENTIAL.
FT   CHAIN        24     95       PROGONADOLIBERIN I.
FT   PEPTIDE      24     33       GONADOLIBERIN I.
FT   PEPTIDE      37     95       GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT   MOD_RES      24     24       PYRROLIDONE CARBOXYLIC ACID (BY
FT                                SIMILARITY).
FT   MOD_RES      33     33       AMIDATION (G-34 PROVIDE AMIDE GROUP)
FT                                (BY SIMILARITY).
SQ   SEQUENCE   95 AA;  10566 MW;  61E79C990328D73E CRC64;


  Query Match          88.0%;  Score 44;  DB 1;  Length 95;
  Best Local Similarity   87.5%;  Pred. No. 0.11;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||| ||
Db     26 WSYGLSPG 33


Search completed: March 13, 2002, 09:05:42
Job time: 916 sec
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OM protein - protein search, using sw model

Run on: March 13, 2002, 09:04:17 ; Search time 161.29 Seconds
(without alignments)
7.255 Million cell updates/sec

Title: US-09-462-089-3
Perfect score: 50
Sequence: 1 WSYGLRPG 8

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 473505 seqs, 146272329 residues

Total number of hits satisfying chosen parameters: 473505

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_17:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	50	100.0	91	13	Q9PRH0	Q9prh0 anguilla ja
2	44	88.0	87	13	Q9YI26	Q9yi26 sparus aura
3	44	88.0	95	13	O73812	O73812 morone saxa
4	44	88.0	99	13	Q9IA10	Q9ia10 dicentrarch
5	42	84.0	90	13	Q9IAU2	Q9iau2 rana dybows
6	40	80.0	91	13	Q9DGC8	Q9dgc8 oryzias lat
7	39	78.0	388	1	Q9YD14	Q9yd14 aeropyrum p
8	39	78.0	508	10	O82588	O82588 arabidopsis
9	38	76.0	148	11	Q9DCH3	Q9dch3 mus musculu
10	38	76.0	293	1	Q9YD98	Q9yd98 aeropyrum p
11	38	76.0	417	11	Q9CWS1	Q9cws1 mus musculu
12	38	76.0	664	5	O44313	O44313 drosophila
13	38	76.0	1687	3	Q9C0Z4	Q9c0z4 schizosacch
14	37	74.0	33	13	Q9W7G0	Q9w7g0 oncorhynchu
15	37	74.0	33	13	Q9PT34	Q9pt34 oncorhynchu
16	37	74.0	82	13	Q92094	Q92094 oncorhynchu
17	37	74.0	82	13	Q9W7G1	Q9w7g1 oncorhynchu
18	37	74.0	82	13	Q9I8Q0	Q9i8q0 oncorhynchu
19	37	74.0	82	13	Q9I8P9	Q9i8p9 oncorhynchu
20	37	74.0	88	13	Q9PSY9	Q9psy9 sparus aura
21	37	74.0	90	13	Q9IA09	Q9ia09 dicentrarch
22	37	74.0	90	13	Q9DD49	Q9dd49 oryzias lat
23	37	74.0	94	13	Q9DEH6	Q9deh6 carassius a
24	37	74.0	94	13	Q9DEH5	Q9deh5 carassius a
25	37	74.0	94	13	Q9DDD8	Q9ddd8 brachydanio
26	37	74.0	322	2	Q9F3C9	Q9f3c9 streptomyce
27	37	74.0	473	2	Q9Z405	Q9z405 pseudomonas
28	37	74.0	486	5	O45910	O45910 caenorhabdi
29	37	74.0	490	2	P95451	P95451 pseudomonas
30	37	74.0	637	1	Q9Y9Q9	Q9y9q9 aeropyrum p
31	37	74.0	812	10	O64620	O64620 arabidopsis
32	37	74.0	954	10	O22613	O22613 kosteletzky
33	36	72.0	240	2	Q9ANF2	Q9anf2 bradyrhizob
34	36	72.0	306	10	Q9M5Q3	Q9m5q3 petunia hyb
35	36	72.0	407	2	Q9AMP0	Q9amp0 pseudomonas
36	36	72.0	491	2	Q9AN84	Q9an84 bradyrhizob
37	36	72.0	495	2	O52209	O52209 serratia ma
38	36	72.0	596	11	P97406	P97406 mus musculu
39	36	72.0	601	2	Q9I612	Q9i612 pseudomonas
40	36	72.0	719	3	Q9HFJ6	Q9hfj6 neurospora
41	36	72.0	741	2	Q9HZM0	Q9hzm0 pseudomonas
42	36	72.0	1582	2	O50437	O50437 mycobacteri
43	35	70.0	134	2	Q9X945	Q9x945 streptomyce
44	35	70.0	188	2	Q9L1G0	Q9l1g0 streptomyce
45	35	70.0	256	2	P72950	P72950 synechocyst

ALIGNMENTS

RESULT 1
Q9PRH0
ID Q9PRH0 PRELIMINARY; PRT; 91 AA.
AC Q9PRH0;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE GONADOLIBERIN PRECURSOR (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-
DE RH) (LULIBERIN).
OS Anguilla japonica (Japanese eel).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Anguilliformes; Anguilloidei;
OC Anguillidae; Anguilla.
OX NCBI_TaxID=7937;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=BRAIN;
RA Okubo K., Suetake H., Aida K.;
RT "Expression of two gonadotropin-releasing hormone (GnRH) precursor
RT genes in various tissues of the Japanese eel and evolution of GnRH.";
RL Zool. Sci. 16:471-478(1999).
RN [2]
RP SEQUENCE FROM N.A.
RA Okubo K., Suetake H., Aida K.;
RT "A splicing variant for the prepro-mammalian gonadotropin-releasing
RT hormone (prepro-mGnRH) mRNA is present in the brain and various
RT peripheral tissues of the Japanese eel.";
RL Zool. Sci. 16:645-651(1999).
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -!- SIMILARITY: TO THE GNRH FAMILY.
DR EMBL; AB026989; BAA82608.1; -.
DR EMBL; AB026991; BAA83597.1; -.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 22 POTENTIAL.
FT CHAIN 23 32 MGNRH.
FT CHAIN 33 91 GNRH ASSOCIATED PEPTIDE.
SQ SEQUENCE 91 AA; 9893 MW; BA15C9DC08434A7B CRC64;

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  Query Match             100.0%;  Score 50;  DB 13;  Length 91;
  Best Local Similarity   100.0%;  Pred. No. 0.056;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||||||
Db     25 WSYGLRPG 32


RESULT   2
Q9YI26
ID   Q9YI26      PRELIMINARY;      PRT;    87 AA.
AC   Q9YI26;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN) (FRAGMENT).
OS   Sparus aurata (Gilthead sea bream).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Sparus.
OX   NCBI_TaxID=8175;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=OVARY;
RA   Nabissi M.;
RL   Submitted (FEB-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF046801; AAD02427.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
FT   NON_TER       1      1
FT   NON_TER      87     87
SQ   SEQUENCE   87 AA;  9871 MW;  0D2463533D96782A CRC64;


  Query Match             88.0%;  Score 44;  DB 13;  Length 87;
  Best Local Similarity   87.5%;  Pred. No. 0.69;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||| ||
Db     23 WSYGLSPG 30


RESULT   3
O73812
ID   O73812      PRELIMINARY;      PRT;    95 AA.
AC   O73812;
DT   01-AUG-1998 (TrEMBLrel. 07, Created)
DT   01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Morone saxatilis (Striped bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Morone.
OX   NCBI_TaxID=34816;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Chow M.M., Kight K.E., Gothilf Y., Alok D., Zohar Y.;
RL   Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF056314; AAD03817.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   95 AA;  10411 MW;  980C6988FC279BFC CRC64;


  Query Match             88.0%;  Score 44;  DB 13;  Length 95;
  Best Local Similarity   87.5%;  Pred. No. 0.76;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||| ||
Db     25 WSYGLSPG 32


RESULT   4
Q9IA10
ID   Q9IA10      PRELIMINARY;      PRT;    99 AA.
AC   Q9IA10;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Dicentrarchus labrax (European sea bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Dicentrarchus.
OX   NCBI_TaxID=13489;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Gonzalez-Martinez D., Madigou T., Zmora N., Anglade I., Zanuy S.,
RA   Zohar Y., Elizur A., Munoz-Cueto J.A., Kah O.;
RT   "Differential expression of three different prepro-GnRH
RT   (Gonadotrophin-releasing hormone) messengers in the brain of the
RT   European sea bass (Dicentrarchus labrax).";
RL   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Zmora N., Zohar Y., Elizur A.;
RT   "3 GnRH form in the seabass Dicentrarchus labrax.";
RL   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF224279; AAF62898.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   99 AA;  10758 MW;  EC8AEEC93CC02904 CRC64;


  Query Match             88.0%;  Score 44;  DB 13;  Length 99;
  Best Local Similarity   87.5%;  Pred. No. 0.79;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||| ||
Db     29 WSYGLSPG 36


RESULT   5
Q9IAU2
ID   Q9IAU2      PRELIMINARY;      PRT;    90 AA.
AC   Q9IAU2;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
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DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN).
OS   Rana dybowskii (Frog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana.
OX   NCBI_TaxID=71582;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Yoo M.S., Kang H.M., Choi H.S., Chun S.Y., Troskie B., Millar R.P.,
RA   Kwon H.B.;
RT   "Molecular Cloning, Distribution and Phamacological Characterization
RT   of a Novel Gonadotropin-Releasing Hormone([Trp8]GnRH) in Frog Brain.";
RL   Mol. Cell. Endocrinol. 0:0-0(2000).
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF139911; AAF44343.1; -.
DR   InterPro; IPR002012; GnRH.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
SQ   SEQUENCE   90 AA;  10368 MW;  C3D573E78B52ABFA CRC64;


  Query Match             84.0%;  Score 42;  DB 13;  Length 90;
  Best Local Similarity   87.5%;  Pred. No. 1.7;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||| ||
Db     27 WSYGLWPG 34


RESULT   6
Q9DGC8
ID   Q9DGC8      PRELIMINARY;      PRT;    91 AA.
AC   Q9DGC8;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   PREPRO-GONADOTROPIN-RELEASING HORMONE.
GN   MDGNRH.
OS   Oryzias latipes (Medaka fish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC   Beloniformes; Adrianichthyidae; Oryziinae; Oryzias.
OX   NCBI_TaxID=8090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RX   PubMed=11006121;
RA   Okubo K., Amano M., Yoshiura Y., Suetake H., Aida K.;
RT   "A Novel Form of Gonadotropin-Releasing Hormone in the Medaka, Oryzias
RT   latipes.";
RL   Biochem. Biophys. Res. Commun. 276:298-303(2000).
DR   EMBL; AB041333; BAB16303.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; UNKNOWN_1.
FT   CHAIN        22      31       GONADOTROPIN-RELEASING HORMONE.
SQ   SEQUENCE   91 AA;  10307 MW;  A00F2BED6FD6E0B5 CRC64;


  Query Match             80.0%;  Score 40;  DB 13;  Length 91;
  Best Local Similarity   75.0%;  Pred. No. 4;
  Matches    6;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||:|| ||
Db     24 WSFGLSPG 31


RESULT   7
Q9YD14
ID   Q9YD14      PRELIMINARY;      PRT;   388 AA.
AC   Q9YD14;
DT   01-NOV-1999 (TrEMBLrel. 12, Created)
DT   01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   388AA LONG HYPOTHETICAL FMU PROTEIN.
GN   APE1098.
OS   Aeropyrum pernix.
OC   Archaea; Crenarchaeota; Desulfurococcales; Desulfurococcaceae;
OC   Aeropyrum.
OX   NCBI_TaxID=56636;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=K1;
RX   MEDLINE=99310339; PubMed=10382966;
RA   Kawarabayasi Y., Hino Y., Horikawa H., Yamazaki S., Haikawa Y.,
RA   Jin-no K., Takahashi M., Sekine M., Baba S.-I., Ankai A., Kosugi H.,
RA   Hosoyama A., Fukui S., Nagai Y., Nishijima K., Nakazawa H.,
RA   Takamiya M., Masuda S., Funahashi T., Tanaka T., Kudoh Y.,
RA   Yamazaki J., Kushida N., Oguchi A., Aoki K.-I., Kubota K.,
RA   Nakamura Y., Nomura N., Sako Y., Kikuchi H.;
RT   "Complete genome sequence of an aerobic hyper-thermophilic
RT   crenarchaeon, Aeropyrum pernix K1.";
RL   DNA Res. 6:83-101(1999).
DR   EMBL; AP000060; BAA80083.1; -.
DR   InterPro; IPR001678; Noll_Nop2_Sun.
DR   InterPro; IPR002478; PUA.
DR   Pfam; PF01189; Noll_Nop2_Sun; 1.
DR   Pfam; PF01472; PUA; 1.
DR   SMART; SM00359; PUA; 1.
KW   Complete proteome.
SQ   SEQUENCE   388 AA;  42535 MW;  A9E10CEAAEF0B0AC CRC64;


  Query Match             78.0%;  Score 39;  DB 1;  Length 388;
  Best Local Similarity   85.7%;  Pred. No. 28;
  Matches    6;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRP 7
          ||:||||
Db    352 WSWGLRP 358


RESULT   8
O82588
ID   O82588      PRELIMINARY;      PRT;   508 AA.
AC   O82588;
DT   01-NOV-1998 (TrEMBLrel. 08, Created)
DT   01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   F11O4.7 PROTEIN (FRAGMENT).
GN   F11O4.7.
OS   Arabidopsis thaliana (Mouse-ear cress).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC   eurosids II; Brassicales; Brassicaceae; Arabidopsis.
OX   NCBI_TaxID=3702;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CV. COLUMBIA;
RA   WASHU;
RT   "The A. thaliana Genome Sequencing Project.";
RL   Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CV. COLUMBIA;
RA   Abu-Threideh J., Stoneking T., Langston Y., Trevaskis E.;
RT   "The sequence of A. thaliana F11O4.";
RL   Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A.
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RC   STRAIN=CV. COLUMBIA;
RA   Waterston R.;
RL   Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF096370; AAC62783.1; -.
DR   InterPro; IPR002885; PPR.
DR   Pfam; PF01535; PPR; 9.
FT   NON_TER     508    508
SQ   SEQUENCE   508 AA;  56879 MW;  EB1449A49067AEDD CRC64;


  Query Match             78.0%;  Score 39;  DB 10;  Length 508;
  Best Local Similarity   75.0%;  Pred. No. 38;
  Matches    6;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          | | ||||
Db     80 WCYSLRPG 87


RESULT   9
Q9DCH3
ID   Q9DCH3      PRELIMINARY;      PRT;   148 AA.
AC   Q9DCH3;
DT   01-JUN-2001 (TrEMBLrel. 17, Created)
DT   01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   0610037N03RIK PROTEIN.
GN   0610037N03RIK.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6J; TISSUE=KIDNEY;
RX   MEDLINE=21085660; PubMed=11217851;
RA   Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA   Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA   Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA   Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA   Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA   Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
RA   Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA   Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA   Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA   Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA   Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA   Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA   Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
RA   Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA   Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA   Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
RA   Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
RA   Hayashizaki Y.;
RT   "Functional annotation of a full-length mouse cDNA collection.";
RL   Nature 409:685-690(2001).
CC   -!- SIMILARITY: CONTAINS A RING-TYPE ZINC FINGER.
DR   EMBL; AK002781; BAB22354.1; -.
DR   MGD; MGI:1915638; 0610037N03Rik.
DR   InterPro; IPR001870; Gamma_carbxylse.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF00097; zf-C3HC4; 1.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS00518; ZINC_FINGER_C3HC4; 1.
KW   Zinc-finger.
SQ   SEQUENCE   148 AA;  16359 MW;  F095E746C20B38E9 CRC64;


  Query Match             76.0%;  Score 38;  DB 11;  Length 148;
  Best Local Similarity   75.0%;  Pred. No. 16;
  Matches    6;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          | ||| ||
Db    131 WLYGLSPG 138


RESULT  10
Q9YD98
ID   Q9YD98      PRELIMINARY;      PRT;   293 AA.
AC   Q9YD98;
DT   01-NOV-1999 (TrEMBLrel. 12, Created)
DT   01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   HYPOTHETICAL 32.6 KDA PROTEIN APE1014.
GN   APE1014.
OS   Aeropyrum pernix.
OC   Archaea; Crenarchaeota; Desulfurococcales; Desulfurococcaceae;
OC   Aeropyrum.
OX   NCBI_TaxID=56636;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=K1;
RX   MEDLINE=99310339; PubMed=10382966;
RA   Kawarabayasi Y., Hino Y., Horikawa H., Yamazaki S., Haikawa Y.,
RA   Jin-no K., Takahashi M., Sekine M., Baba S.-I., Ankai A., Kosugi H.,
RA   Hosoyama A., Fukui S., Nagai Y., Nishijima K., Nakazawa H.,
RA   Takamiya M., Masuda S., Funahashi T., Tanaka T., Kudoh Y.,
RA   Yamazaki J., Kushida N., Oguchi A., Aoki K.-I., Kubota K.,
RA   Nakamura Y., Nomura N., Sako Y., Kikuchi H.;
RT   "Complete genome sequence of an aerobic hyper-thermophilic
RT   crenarchaeon, Aeropyrum pernix K1.";
RL   DNA Res. 6:83-101(1999).
DR   EMBL; AP000060; BAA79999.1; -.
DR   InterPro; IPR002854; DUF136.
DR   Pfam; PF02004; DUF136; 1.
DR   ProDom; PD038341; DUF136; 1.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   293 AA;  32598 MW;  FCF9AD35E85857FE CRC64;


  Query Match             76.0%;  Score 38;  DB 1;  Length 293;
  Best Local Similarity   85.7%;  Pred. No. 32;
  Matches    6;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 WSYGLRP 7
          ||||| |
Db     47 WSYGLAP 53


RESULT  11
Q9CWS1
ID   Q9CWS1      PRELIMINARY;      PRT;   417 AA.
AC   Q9CWS1;
DT   01-JUN-2001 (TrEMBLrel. 17, Created)
DT   01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   2410006N06RIK PROTEIN.
GN   2410006N06RIK.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6J; TISSUE=EMBRYONIC STEM CELLS;
RX   MEDLINE=21085660; PubMed=11217851;
RA   Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA   Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA   Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA   Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA   Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA   Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
RA   Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA   Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA   Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
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RA   Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA   Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA   Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA   Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
RA   Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA   Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA   Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
RA   Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
RA   Hayashizaki Y.;
RT   "Functional annotation of a full-length mouse cDNA collection.";
RL   Nature 409:685-690(2001).
CC   -!- SIMILARITY: CONTAINS A RING-TYPE ZINC FINGER.
DR   EMBL; AK010429; BAB26931.1; -.
DR   MGD; MGI:1919206; 2410006N06Rik.
DR   InterPro; IPR001870; Gamma_carbxylse.
DR   InterPro; IPR003877; SPRY.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF00097; zf-C3HC4; 1.
DR   SMART; SM00184; RING; 1.
DR   SMART; SM00449; SPRY; 1.
DR   PROSITE; PS00518; ZINC_FINGER_C3HC4; 1.
KW   Zinc-finger.
SQ   SEQUENCE   417 AA;  46461 MW;  C79AD6FA1D2CF683 CRC64;


  Query Match             76.0%;  Score 38;  DB 11;  Length 417;
  Best Local Similarity   75.0%;  Pred. No. 47;
  Matches    6;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          | ||| ||
Db    400 WLYGLSPG 407


RESULT  12
O44313
ID   O44313      PRELIMINARY;      PRT;   664 AA.
AC   O44313;
DT   01-JUN-1998 (TrEMBLrel. 06, Created)
DT   01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   REVERSE TRANSCRIPTASE (FRAGMENT).
GN   R1-ELEMENT.
OS   Drosophila mercatorum mercatorum.
OC   Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
OC   Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
OC   Ephydroidea; Drosophilidae; Drosophila.
OX   NCBI_TaxID=64960;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Burke W.D., Malik H.S., Eickbush T.H.;
RL   Submitted (JUL-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- SIMILARITY: TO RNA-DIRECTED DNA POLYMERASE (REVERSE
CC       TRANSCRIPTASE).
DR   EMBL; AF015277; AAB94027.1; -.
DR   FlyBase; FBgn0044260; Dmer\R1-element\ORF.
DR   InterPro; IPR000477; RVTse.
DR   Pfam; PF00078; rvt; 1.
KW   RNA-directed DNA polymerase.
FT   NON_TER     664     664
SQ   SEQUENCE   664 AA;  75069 MW;  EDEBD599813BCCF3 CRC64;


  Query Match             76.0%;  Score 38;  DB 5;  Length 664;
  Best Local Similarity   62.5%;  Pred. No. 76;
  Matches    5;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          | :| |||
Db    542 WQFGFRPG 549


RESULT  13
Q9C0Z4
ID   Q9C0Z4      PRELIMINARY;      PRT;  1687 AA.
AC   Q9C0Z4;
DT   01-JUN-2001 (TrEMBLrel. 17, Created)
DT   01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   PROTEIN WITH SIMILARITY TO ASPERGILLUS NIDULANS DOPA WHICH CAUSES
DE   DELAYED AND ASYNCHRONOUS MORPHOGENESIS DURING ASEXUAL REPRODUCTION AND
DE   S. CEREVISIAE DOP1 (WHICH IS LETHAL).
GN   SPAPB21F2.02.
OS   Schizosaccharomyces pombe (Fission yeast).
OC   Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
OC   Schizosaccharomycetales; Schizosaccharomycetaceae;
OC   Schizosaccharomyces.
OX   NCBI_TaxID=4896;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=972H-;
RA   Saunders D., Harris D., Wood V., Rajandream M.A., Barrell B.G.;
RL   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AL590562; CAC36891.1; -.
SQ   SEQUENCE   1687 AA;  192653 MW;  AD4B87939A2940AC CRC64;


  Query Match             76.0%;  Score 38;  DB 3;  Length 1687;
  Best Local Similarity   85.7%;  Pred. No. 2.1e+02;
  Matches    6;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 WSYGLRP 7
          ||||| |
Db    105 WSYGLTP 111


RESULT  14
Q9W7G0
ID   Q9W7G0      PRELIMINARY;      PRT;    33 AA.
AC   Q9W7G0;
DT   01-NOV-1999 (TrEMBLrel. 12, Created)
DT   01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN) (FRAGMENT).
GN   GNRH2.
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99312119; PubMed=10385393;
RA   Von Schalburg K.R., Sherwood N.M.;
RT   "Regulation and expression of gonadotropin-releasing hormone gene
RT   differs in brain and gonads in rainbow trout.";
RL   Endocrinology 140:3012-3024(1999).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Von Schalburg K.R., Sherwood N.M.;
RL   Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS.
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF110993; AAD43463.1; -.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
FT   NON_TER      33      33
SQ   SEQUENCE   33 AA;  3668 MW;  099C825E4A72A3BB CRC64;


  Query Match             74.0%;  Score 37;  DB 13;  Length 33;
  Best Local Similarity   75.0%;  Pred. No. 4.8;
  Matches    6;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;
```

```
Qy      1 WSYGLRPG 8
            ||||  ||
Db     26 WSYGWLPG 33


RESULT  15
Q9PT34
ID   Q9PT34      PRELIMINARY;      PRT;    33 AA.
AC   Q9PT34;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GONADOLIBERIN (GONADOTROPIN-RELEASING HORMONE) (GNRH) (LH-RH)
DE   (LULIBERIN) (FRAGMENT).
GN   GNRH1.
OS   Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC   Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX   NCBI_TaxID=8022;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99312119; PubMed=10385393;
RA   Von Schalburg K.R., Sherwood N.M.;
RT   "Regulation and expression of gonadotropin-releasing hormone gene
RT   differs in brain and gonads in rainbow trout.";
RL   Endocrinology 140:3012-3024(1999).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   von Schalburg K.R., Sherwood N.M.;
RL   Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: TO THE GNRH FAMILY.
DR   EMBL; AF110533; AAD43461.1; -.
DR   InterPro; IPR002047; AKH.
DR   InterPro; IPR002012; GnRH.
DR   Pfam; PF00446; GnRH; 1.
DR   PROSITE; PS00256; AKH; UNKNOWN_1.
DR   PROSITE; PS00473; GNRH; 1.
KW   Amidation; Hormone.
FT   NON_TER      33     33
SQ   SEQUENCE   33 AA;  3741 MW;  1FE1535E742B7EBB CRC64;


  Query Match             74.0%;  Score 37;  DB 13;  Length 33;
  Best Local Similarity   75.0%;  Pred. No. 4.8;
  Matches    6;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
            ||||  ||
Db     26 WSYGWLPG 33


Search completed: March 13, 2002, 09:04:18
Job time: 962 sec
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GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 08:50:20 ; Search time 115.24 Seconds
(without alignments)
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Title: US-09-462-089-3
Perfect score: 50
Sequence: 1 WSYGLRPG 8

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 522463 seqs, 74073290 residues

Total number of hits satisfying chosen parameters: 522463

Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_1101:*
1: /SIDS1/gcgdata/geneseq/geneseqp/AA1980.DAT:*
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21: /SIDS1/gcgdata/geneseq/geneseqp/AA2000.DAT:*
22: /SIDS1/gcgdata/geneseq/geneseqp/AA2001.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	50	100.0	8	6	AAP50692	Sequence of gonado
2	50	100.0	8	13	AAR26733	Immunogenic LHRH(3
3	50	100.0	8	20	AAW94892	LHRH peptide fragm
4	50	100.0	8	21	AAB15364	Human LHRH peptide
5	50	100.0	9	7	AAP60174	Sequence of lutein
6	50	100.0	9	16	AAR86849	Gonadotropin relea
7	50	100.0	9	20	AAW94891	LHRH peptide fragm
8	50	100.0	9	21	AAB15363	Human LHRH peptide
9	50	100.0	9	21	AAB08104	Amino acid sequenc
10	50	100.0	9	22	AAB90979	Luteinising hormon
11	50	100.0	9	22	AAB59836	GnRH peptide. Pet
12	50	100.0	10	2	AAP10097	Sequence of lutein
13	50	100.0	10	2	AAP10411	Luteinising Hormon
14	50	100.0	10	2	AAP10416	Luteinising Hormon
15	50	100.0	10	6	AAP50222	Gonadotrophin rele
16	50	100.0	10	7	AAP60127	Gonadoliberin anta
17	50	100.0	10	7	AAP60175	Sequence of lutein
18	50	100.0	10	7	AAP61403	Gonadotropin relea
19	50	100.0	10	7	AAP60576	Novel decapeptide
20	50	100.0	10	8	AAP70922	Luteinising hormon
21	50	100.0	10	10	AAP90630	Sequence of lutein
22	50	100.0	10	11	AAR04164	Immunogenic conjug
23	50	100.0	10	12	AAR15713	Peptide #1 with ho
24	50	100.0	10	13	AAR26819	LH releasing hormo
25	50	100.0	10	15	AAR62689	LHRH hapten for at
26	50	100.0	10	16	AAR91197	LHRH peptide. Syn
27	50	100.0	10	16	AAR86845	Gonadotropin relea
28	50	100.0	10	16	AAR86851	Gonadotropin relea
29	50	100.0	10	16	AAR75152	Gonadotropin relea
30	50	100.0	10	17	AAW65201	Luteinising hormon
31	50	100.0	10	17	AAW65203	Luteinising hormon
32	50	100.0	10	18	AAW45642	Luteinising hormon
33	50	100.0	10	18	AAW22390	Gonadotropin relea
34	50	100.0	10	18	AAW16390	Gonadotropin relea
35	50	100.0	10	18	AAW04612	Lutenizing hormone
36	50	100.0	10	19	AAW79566	GnRH-1 polypeptide
37	50	100.0	10	19	AAW76381	Rat modified GnHR
38	50	100.0	10	19	AAW76373	Rat GnHR peptide.
39	50	100.0	10	19	AAW61541	Peptide hormone Gn
40	50	100.0	10	20	AAY50229	Neutrophil-activat
41	50	100.0	10	20	AAY31176	Ubiquitin fusion p
42	50	100.0	10	20	AAY31180	Ubiquitin fusion p
43	50	100.0	10	20	AAY31067	Non-crosslinked pr
44	50	100.0	10	20	AAY03864	Amino acid sequenc
45	50	100.0	10	20	AAY03856	Amino acid sequenc

ALIGNMENTS

```
RESULT 1
AAP50692
ID   AAP50692 standard; peptide; 8 AA.
XX
AC   AAP50692;
XX
DT   16-OCT-1991  (first entry)
XX
DE   Sequence of gonadorelin peptide intermediate.
XX
KW   Gonadorelin; hormone; luteinising hormone releasing hormone.
XX
FH   Key             Location/Qualifiers
FT   Modified-site  1
FT                   /note= "bonded to urethane-protecting gp."
FT   Modified-site  8
FT                   /label= Gly-NH2
XX
PN   EP156280-A.
XX
PD   02-OCT-1985.
XX
PF   18-MAR-1985;   85EP-0103106.
XX
PR   27-MAR-1984;   84DE-3411224.
XX
PA   (FARH ) HOECHST AG.
XX
PI   Uhmann R,  Radscheit K;
XX
DR   WPI; 1985-243923/40.
XX
PT   Prodn. of gonadorelin peptide intermediates without racemisation
PT   - from new protected tryptophan tri:peptide derivs.
```

XX
PS Claim 4; Page 23; 28pp; German.
XX
CC The peptides of the invention are intermediates for the synthesis of
CC gonadorelin (luteinising hormone releasing hormone) and its
CC analogues (see e.g. US 4024248).
XX
SQ Sequence 8 AA;

Query Match 100.0%; Score 50; DB 6; Length 8;
Best Local Similarity 100.0%; Pred. No. 4.3e+05;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||||||||
Db 1 wsyglrpg 8

RESULT 2
AAR26733
ID AAR26733 standard; peptide; 8 AA.
XX
AC AAR26733;
XX
DT 11-FEB-1993 (first entry)
XX
DE Immunogenic LHRH(3-10).
XX
KW Immunoneutralisation; luteinising hormone releasing hormone; GnRH;
KW gonadoliberin; castration.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 8
FT /note= "amidated"
XX
PN EP501882-A.
XX
PD 02-SEP-1992.
XX
PF 26-FEB-1992; 92EP-0400496.
XX
PR 01-MAR-1991; 91FR-0002513.
PR 10-DEC-1991; 91FR-0015289.
XX
PA (INMR) RHONE MERIEUX.
XX
PI Bonneau MB, Chouvet C, Dufour R, Roulet C;
XX
DR WPI; 1992-294301/36.
XX
PT Improving meat quality of intact male animals - by
PT immuno:neutralisation, shortly before slaughter, of steroid with
PT anti-LHRH, esp. induced by two-stage vaccination
XX
PS Claim 22; Page 17; 18pp; French.
XX
CC LHRH(3-10) is highly immunogenic but lacks the hormonal properties
CC of natural LHRH. Conjugates of the peptide with an immunogenic
CC carrier protein can be used as an anti-LHRH vaccine. (An alpha-
CC globulin/LHRH conjugate can also be used as anti-LHRH vaccine). The
CC vaccines are administered shortly before slaughter to suppress the
CC action of androgenic and non-androgenic hormones in non-castrated
CC male animals. This allows the advantages associated with the male
CC character (greater weight gain, more efficient feed utilisation and
CC leaber carcasses) to be retained practically up to the time of
CC slaughter. The treatment does not induce any local reactions which
CC could result in the meat being rejected on grounds of quality.
XX
SQ Sequence 8 AA;

Query Match 100.0%; Score 50; DB 13; Length 8;
Best Local Similarity 100.0%; Pred. No. 4.3e+05;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||||||||
Db 1 wsyglrpg 8

RESULT 3
AAW94892
ID AAW94892 standard; peptide; 8 AA.
XX
AC AAW94892;
XX
DT 11-MAY-1999 (first entry)
XX
DE LHRH peptide fragment.
XX
KW LHRH; immune response; luteinising hormone releasing hormone; DT;
KW diphtheria toxoid; castrating; oestrus cycling; aggression; breast;
KW sexual activity; organoleptic; livestock; cell growth; malignant;
KW prostate; ovarian; oncofoetal; hyperplastic; pregnancy;
KW endometriosis; inflammatory response.
XX
OS Homo sapiens.
XX
PN WO9902180-A1.
XX
PD 21-JAN-1999.
XX
PF 09-JUL-1998; 98WO-AU00532.
XX
PR 09-JUL-1997; 97AU-0007768.
XX
PA (CSLC-) CSL LTD.
XX
PI McNamara MK;
XX
DR WPI; 1999-120511/10.
XX
PT New immunogenic leutenising hormone releasing hormone compositions -
PT comprise LHRH conjugated to diphtheria toxoid and adsorbed to an
PT ionic polysaccharide, used to inhibit reproductive function in
PT animals
XX
PS Examples; Page 30; 41pp; English.
XX
CC The invention relates immunogenic composition for eliciting an immune
CC response to luteinising hormone releasing hormone (LHRH). The
CC composition comprises a LHRH-diphtheria toxoid (DT) conjugate adsorbed to
CC an ionic polysaccharide. The LHRH-DT compositions can be used for
CC eliciting an immune response to LHRH, for castrating an animal, for
CC regulating oestrus cycling in a female animal or for inhibiting
CC characteristics induced by the sexual maturation of an animal, e.g.
CC aggression or sexual activity. They can also be used for achieving
CC production gains in livestock, e.g. reduction or elimination of unwanted
CC organoleptic characteristics from the meat of livestock. They can also be
CC used for inhibiting the growth of cells which are regulated directly or
CC indirectly by LHRH, e.g. malignant breast cells, malignant prostate
CC cells, malignant ovarian cells, malignant oncofoetal cells or
CC hyperplastic cells. They can also be used for down-regulating the libido
CC of an animal. They can also be used for inhibiting pregnancy, prostate
CC enlargement, endometriosis or inflammatory responses. The LHRH
CC compositions induce a more effective immune response against LHRH than
CC the LHRH-carrier-adjuvant compositions. The effective immune response
CC against LHRH results in prevention of the release of the hormones LH and
CC FSH from the anterior pituitary. Sequences AAW94890-93 are peptide
CC derivatives of LHRH.
XX
SQ Sequence 8 AA;

Query Match 100.0%; Score 50; DB 20; Length 8;
Best Local Similarity 100.0%; Pred. No. 4.3e+05;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 WSYGLRPG 8
          ||||||||
Db      1 wsyglrpg 8
```

RESULT 4
AAB15364
ID AAB15364 standard; peptide; 8 AA.
XX
AC AAB15364;
XX
DT 17-JAN-2001 (first entry)
XX
DE Human LHRH peptide SEQ ID NO: 3.
XX
KW Human; LHRH; GnRH; luteinising hormone releasing hormone;
KW gonadotrophin releasing hormone; fertility control; cancer;
KW endometriosis; prostate enlargement.
XX
OS Homo sapiens.
XX
PN WO200041720-A1.
XX
PD 20-JUL-2000.
XX
PF 24-DEC-1999; 99WO-AU01167.
XX
PR 08-JAN-1999; 99AU-0008073.
XX
PA (CSLC-) CSL LTD.
XX
PI Walker J;
XX
DR WPI; 2000-475954/41.
XX
PT Adjuvant composition for manufacturing an immunogenic composition that
PT can elicit an immune response in an animal, comprises an ionic
PT polysaccharide component and a saponin component that is an
PT immunostimulating complex -
XX
PS Disclosure; Page 50; 53pp; English.
XX
CC The present sequence is a peptide fragment of human luteinising hormone
CC releasing hormone (also known as LHRH, GnRH and gonadotrophin releasing
CC hormone). It was used to demonstrate the novel adjuvant of the invention,
CC which has lower reactogenicity then previous compositions. Vaccination of
CC humans and animals against LHRH can be used as a method of fertility
CC control, as well as enabling the control and treatment of disorders of
CC the reproductive organs, such as testicular, breast, prostate and ovarian
CC cancers, prostate enlargement and endometriosis. The composition of the
CC invention contains an anionic macromolecule and a saponin component, the
CC latter of which is an immunostimulant, and it can also be used with other
CC immunogens including soluble protein antigens, peptide haptens conjugated
CC to a carrier protein and whole viruses.
XX
SQ Sequence 8 AA;

Query Match 100.0%; Score 50; DB 21; Length 8;
Best Local Similarity 100.0%; Pred. No. 4.3e+05;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 WSYGLRPG 8
          ||||||||
Db      1 wsyglrpg 8
```

RESULT 5
AAP60174
ID AAP60174 standard; peptide; 9 AA.
XX
AC AAP60174;
XX
DT 19-AUG-1991 (first entry)
XX
DE Sequence of luteinising hormone releasing hormone (LHRH) analogue.
XX
KW Contraception; vaccine; cryptorchidism; prostate cancer therapy;
KW sex hormone.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Misc-difference 9
FT /label= Gly-NH2
XX
PN EP181236-A.
XX
PD 14-MAY-1986.
XX
PF 08-NOV-1985; 85EP-0308166.
XX
PR 09-NOV-1984; 84US-0670469.
PR 06-MAY-1986; 86AU-0057178.
PR 01-MAY-1986; 86ZA-0003292.
XX
PA (PITM) PITMAN-MOORE INC.
XX
PI Mia AS;
XX
DR WPI; 1986-126646/20.
XX
PT New nona- and deca-peptide(s) and dimers - are LHRH analogues
PT useful for preventing ovulation and or treatment of
PT cryptorchidism and prostate cancer
XX
PS Claim 1i; Page 19; 20pp; English.
XX
CC Peptides of the SQs in AAP60174 and AAP60175 are claimed, the last 8 AAs
CC of which are the same and in the same order as the last 8 residues
CC of LHRH. Except at very low pH AAP60175 dimerises quickly through the
CC SH gps. of Cys to give a dimer which is also claimed. A mixture of
CC AAP60174 and AAP60175, and a conjugate of a carrier protein and
CC AAP60174, AAP60175 and the dimer is claimed as a vaccine. Dosage is
CC 0.2-1.0 mg/kg given twice at a 3-6 week interval.
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 50; DB 7; Length 9;
Best Local Similarity 100.0%; Pred. No. 4.3e+05;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 WSYGLRPG 8
          ||||||||
Db      2 wsyglrpg 9
```

RESULT 6
AAR86849
ID AAR86849 standard; peptide; 9 AA.
XX
AC AAR86849;
XX
DT 20-MAR-1996 (first entry)
XX
DE Gonadotropin releasing hormone analogue #4.
XX
KW Gonadotropin releasing hormone; GnRH; motility disorder;
KW functional bowel disease; leuprolide acetate; luteinising hormone;
KW progesterone; relaxin; autonomic nervous system; drug delivery; therapy;

```
KW   irritable bowel syndrome; diabetes; scleroderma; Parkinson's disease.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= OTHER
FT                   /note= "pyroglutamic acid"
FT   Modified-site   9
FT                   /note= "amidated"
XX
PN   US5434136-A.
XX
PD   18-JUL-1995.
XX
PF   14-DEC-1990;    90US-0626402.
XX
PR   19-OCT-1992;    92US-0965675.
PR   14-DEC-1990;    90US-0626402.
PR   14-AUG-1991;    91US-0744977.
XX
PA   (MATH/) MATHIAS J R.
XX
PI   Mathias JR;
XX
DR   WPI; 1995-263259/34.
XX
PT   Treating motility disorders associated with systemic lupus
PT   erythematosus - by admin. of gonadotropin releasing hormone
PT   analogue, to control nausea, vomiting, abdominal pain etc.
XX
PS   Disclosure; Column 19; 14pp; English.
XX
CC   The sequences representd by AAR86846-56 are analogues of gonadotropin
CC   releasing hormone (GnRH) (AAR86845 represents the naturally occuring
CC   form). Analogues of GnRH are represented by AAR86846-56.  Motility
CC   disorders, including functional bowel disease, can be treated by the
CC   administration of one of the GnRH analogues shown here (e.g. leuprolide
CC   acetate).  This is due to the GnRH analogue inhibiting production of
CC   reproductive hormones such as luteinising hormone, progesterone and
CC   relaxin.  Motility disorders are caused from abnormalities of the
CC   autonomic nervous system. Due to this, the GnRH analogues may also exert
CC   effects on the autonomic nervous system.  The GnRH analogues are
CC   administered by injection (which may be intravenous, subcutaneous or
CC   intramuscular), or by a drug delivery system.  The drug delivery system
CC   can comprise a drug implant with timed release, a nasal spray or an
CC   injection of a long-lasting depo form.  This method is used to alleviate
CC   symptoms such as nausea, vomiting, abdominal pain and altered bowel
CC   habits.  The sequences can be used to treat motility disorders in a wide
CC   variety of other diseases including irritable bowel syndrome, diabetes,
CC   scleroderma and Parkinson's disease.
XX
SQ   Sequence   9 AA;
```

```
  Query Match             100.0%;  Score 50;  DB 16;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 4.3e+05;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 WSYGLRPG 8
            ||||||||
Db       2 wsyglrpg 9
```

```
RESULT   7
AAW94891
ID   AAW94891 standard; peptide; 9 AA.
XX
AC   AAW94891;
XX
DT   11-MAY-1999  (first entry)
XX
DE   LHRH peptide fragment.
```

```
XX
KW   LHRH; immune response; luteinising hormone releasing hormone; DT;
KW   diphtheria toxoid; castrating; oestrus cycling; aggression; breast;
KW   sexual activity; organoleptic; livestock; cell growth; malignant;
KW   prostate; ovarian; oncofoetal; hyperplastic; pregnancy;
KW   endometriosis; inflammatory response.
XX
OS   Homo sapiens.
XX
PN   WO9902180-A1.
XX
PD   21-JAN-1999.
XX
PF   09-JUL-1998;    98WO-AU00532.
XX
PR   09-JUL-1997;    97AU-0007768.
XX
PA   (CSLC-) CSL LTD.
XX
PI   McNamara MK;
XX
DR   WPI; 1999-120511/10.
XX
PT   New immunogenic leutenising hormone releasing hormone compositions -
PT   comprise LHRH conjugated to diphtheria toxoid and adsorbed to an
PT   ionic polysaccharide, used to inhibit reproductive function in
PT   animals
XX
PS   Example 3; Page 30; 41pp; English.
XX
CC   The invention relates immunogenic composition for eliciting an immune
CC   response to luteinising hormone releasing hormone (LHRH). The
CC   composition comprises a LHRH-diphtheria toxoid (DT) conjugate adsorbed to
CC   an ionic polysaccharide. The LHRH-DT compositions can be used for
CC   eliciting an immune response to LHRH, for castrating an animal, for
CC   regulating oestrus cycling in a female animal or for inhibiting
CC   characteristics induced by the sexual maturation of an animal, e.g.
CC   aggression or sexual activity. They can also be used for achieving
CC   production gains in livestock, e.g. reduction or elimination of unwanted
CC   organoleptic characteristics from the meat of livestock. They can also be
CC   used for inhibiting the growth of cells which are regulated directly or
CC   indirectly by LHRH, e.g. malignant breast cells, malignant prostate
CC   cells, malignant ovarian cells, malignant oncofoetal cells or
CC   hyperplastic cells. They can also be used for down-regulating the libido
CC   of an animal. They can also be used for inhibiting pregnancy, prostate
CC   enlargement, endometriosis or inflammatory responses. The LHRH
CC   compositions induce a more effective immune response against LHRH than
CC   the LHRH-carrier-adjuvant compositions. The effective immune response
CC   against LHRH results in prevention of the release of the hormones LH and
CC   FSH from the anterior pituitary. Sequences AAW94890-93 are peptide
CC   derivatives of LHRH.
XX
SQ   Sequence   9 AA;
```

```
  Query Match             100.0%;  Score 50;  DB 20;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 4.3e+05;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 WSYGLRPG 8
            ||||||||
Db       2 wsyglrpg 9
```

```
RESULT   8
AAB15363
ID   AAB15363 standard; peptide; 9 AA.
XX
AC   AAB15363;
XX
DT   17-JAN-2001  (first entry)
XX
DE   Human LHRH peptide SEQ ID NO: 2.
```

XX
KW Human; LHRH; GnRH; luteinising hormone releasing hormone;
KW gonadotrophin releasing hormone; fertility control; cancer;
KW endometriosis; prostate enlargement.
XX
OS Homo sapiens.
XX
PN WO200041720-A1.
XX
PD 20-JUL-2000.
XX
PF 24-DEC-1999; 99WO-AU01167.
XX
PR 08-JAN-1999; 99AU-0008073.
XX
PA (CSLC-) CSL LTD.
XX
PI Walker J;
XX
DR WPI; 2000-475954/41.
XX
PT Adjuvant composition for manufacturing an immunogenic composition that
PT can elicit an immune response in an animal, comprises an ionic
PT polysaccharide component and a saponin component that is an
PT immunostimulating complex -
XX
PS Disclosure; Page 50; 53pp; English.
XX
CC The present sequence is a peptide fragment of human luteinising hormone
CC releasing hormone (also known as LHRH, GnRH and gonadotrophin releasing
CC hormone). It was used to demonstrate the novel adjuvant of the invention,
CC which has lower reactogenicity then previous compositions. Vaccination of
CC humans and animals against LHRH can be used as a method of fertility
CC control, as well as enabling the control and treatment of disorders of
CC the reproductive organs, such as testicular, breast, prostate and ovarian
CC cancers, prostate enlargement and endometriosis. The composition of the
CC invention contains an anionic macromolecule and a saponin component, the
CC latter of which is an immunostimulant, and it can also be used with other
CC immunogens including soluble protein antigens, peptide haptens conjugated
CC to a carrier protein and whole viruses.
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 50; DB 21; Length 9;
Best Local Similarity 100.0%; Pred. No. 4.3e+05;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||||||||
Db 2 wsyglrpg 9

RESULT 9
AAB08104
ID AAB08104 standard; peptide; 9 AA.
XX
AC AAB08104;
XX
DT 04-DEC-2000 (first entry)
XX
DE Amino acid sequence of truncated luteinising hormone releasing hormone.
XX
KW T helper cell epitope; CDV; immune response; canine vaccine;
KW luteinising hormone releasing hormone; LHRH.
XX
OS Canis sp.
XX
PN WO200046390-A1.
XX
PD 10-AUG-2000.
XX
PF 07-FEB-2000; 2000WO-AU00070.
XX
PR 05-FEB-1999; 99AU-0008533.
PR 04-AUG-1999; 99AU-0002013.
XX
PA (UYME) UNIV MELBOURNE.
PA (CSLC-) CSL LTD.
PA (CSIR) COMMONWEALTH SCI & IND RES ORG.
PA (COUN-) COUNCIL QUEENSLAND INST MEDICAL RES.
PA (HALL-) HALL INST MEDICAL RES WALTER & ELIZA.
XX
PI Jackson DC, Souravi G, Walker J;
XX
DR WPI; 2000-532904/48.
XX
PT Novel T helper cell epitopes derived from canine distemper virus useful
PT for preparation of canine vaccines -
XX
PS Example 3; Page 21; 54pp; English.
XX
CC The present sequence represents luteinising hormone releasing hormone
CC (LHRH). It is used in vaccines with T helper cell epitopes
CC AAB08076-B08101, derived from canine distemper virus (CDV). Compositions
CC comprising these T cell helper epitopes are useful for inducing an
CC immune response in an animal. The epitopes are useful as components
CC of animal, in particular, canine vaccines, either simply as synthetic
CC peptide based vaccines and as additions to vaccines containing more
CC complex antigens.
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 50; DB 21; Length 9;
Best Local Similarity 100.0%; Pred. No. 4.3e+05;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||||||||
Db 2 wsyglrpg 9

RESULT 10
AAB90979
ID AAB90979 standard; Peptide; 9 AA.
XX
AC AAB90979;
XX
DT 22-JUN-2001 (first entry)
XX
DE Luteinising hormone releasing hormone (LH-RH) related peptide SEQ ID:153.
XX
KW Protection; endogenous therapeutic peptide; peptidase; conjugation;
KW blood component; modification; succinimidyl; maleimido group; amino;
KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO200069900-A2.
XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-US13576.
XX
PR 17-MAY-1999; 99US-0134406.
PR 10-SEP-1999; 99US-0153406.
PR 15-OCT-1999; 99US-0159783.
XX
PA (CONJ-) CONJUCHEM INC.
XX
PI Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;
XX
DR WPI; 2001-112059/12.
XX

```
PT   Modifying and attaching therapeutic peptides to albumin prevents
PT   peptidase degradation, useful for increasing length of in vivo activity
PT   -
XX
PS   Disclosure; Page 240; 733pp; English.
XX
CC   The present invention describes a modified therapeutic peptide (I)
CC   comprising a therapeutically active amino acid region (III) and a
CC   reactive group (II) (e.g. succinimidyl and maleimido groups) attached to
CC   a less therapeutically active amino acid region (IV), which covalently
CC   bonds with amino/hydroxyl/thiol groups on blood components to form a
CC   peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
CC   (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC   factors and neurotransmitters, to protect them from peptidase activity
CC   in vivo for the treatment of various disorders. Endogenous therapeutic
CC   peptides are not suitable as drug candidates as they require frequent
CC   administration due to rapid degradation by peptidases in the body.
CC   Modifying and attaching therapeutic peptides to albumin prevents or
CC   reduces the action of peptidases to increase length of activity (half
CC   life) and specificity as bonding to large molecules decreases
CC   intracellular uptake and interference with physiological processes.
CC   AAB90829 to AAB92441 represent peptides which can be used in the
CC   exemplification of the present invention.
XX
SQ   Sequence   9 AA;


  Query Match             100.0%;  Score 50;  DB 22;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 4.3e+05;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||||||
Db      2 wsyglrpg 9


RESULT  11
AAB59836
ID   AAB59836 standard; Peptide; 9 AA.
XX
AC   AAB59836;
XX
DT   26-MAR-2001  (first entry)
XX
DE   GnRH peptide.
XX
KW   GnRH-III; autoimmune disease; transplant rejection; retroviral disease;
KW   graft-versus-host-disease; lymphoproliferative disease;
KW   gonadotropin-releasing hormone.
XX
OS   Petromyzon marinus.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /note= "Linked to Glucagon-like peptide"
XX
PN   WO200074724-A2.
XX
PD   14-DEC-2000.
XX
PF   05-JUN-2000; 2000WO-GB02014.
XX
PR   03-JUN-1999;   99GB-0012807.
PR   03-JUN-1999;   99US-0137592.
XX
PA   (BIOI-) BIO INNOVATION LTD.
XX
PI   Franks CR,  Della Bitta R,  Maitland NJ,  Knight DJ;
XX
DR   WPI; 2001-061658/07.
XX
PT   Novel product comprising proliferatively active moiety linked to
PT   genetic material, useful as vectors for protected nucleic acid material
PT   and as mitogen to stimulate proliferation of target cell -
XX
PS   Disclosure; Page 4; 49pp; English.
XX
CC   The present invention relates to a product comprising a proliferatively
CC   active moiety (PAM) linked to nucleic acid material which is associated
CC   with a protective material. The PAM product is useful for manufacturing
CC   a medicament for treating e.g. an autoimmune disease, transplant
CC   rejection, retroviral disease, graft-versus-host-disease, or
CC   lymphoproliferative disease, comprising cells bearing a high affinity
CC   receptor for PAM. The present sequence is a peptide of
CC   gonadotropin-releasing hormone (GnRH). GnRH is a peptide hormone, which
CC   has high-affinity receptors, and therefore can be used in the present
CC   invention.
XX
SQ   Sequence   9 AA;


  Query Match             100.0%;  Score 50;  DB 22;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 4.3e+05;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||||||
Db      2 wsyglrpg 9


RESULT  12
AAP10097
ID   AAP10097 standard; peptide; 10 AA.
XX
AC   AAP10097;
XX
DT   19-AUG-1992  (first entry)
XX
DE   Sequence of luteinising hormone (LH-RH, ICSH) liberating hormone.
XX
KW   Gonadorelin; luteinising hormone releasing hormone; LH-RH;
KW   ICSH; prostatic hyperplasia therapy.
XX
OS   Mammal.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1
FT                   /label= Pyr
FT   Modified-site   10
FT                   /label= Gly-NH2
XX
PN   BE887639-A.
XX
PD   24-AUG-1981.
XX
PF   27-AUG-1981;   81BE-0303944.
XX
PR   22-MAY-1980;   80US-0152241.
XX
PA   (AMHP ) AYERST MCKENNA HARR.
XX
PI   Auclair C;
XX
DR   WPI; 1981-66067D/37  (66067D).
XX
PT   Gonadorelin for treatment of benign prostatic hyperplasia - is
PT   the deca:peptide Pyr-His-Trp-Ser-Tyr-Gly-Leu-Arg-Pro-Gly-NH2 or
PT   luteinising hormone liberating hormone
XX
PS   Claim 1; Page 7; 9pp; French.
XX
CC   The inventors claim a compsn. for the redn. or prevention of
CC   undesired prostatic growth in males. The compsn. contains a
CC   decapeptide (gonadorelin) (AAP10097) with an appropriate vehicle or
CC   support. The compsn. is used for treating e.g. benign prostatic
CC   hyperplasia by parenteral admin. in daily doses of 0.035-11.0 (pref.
```

```
CC   0.080-2.0) mg/kg. Gonadorelin is the generic name for LH-RH and is
CC   described in US3835108. In the example s.c. injection of the
CC   compsn.significantly reduced the wt. of seminal vesicles and
CC   ventral prostate in rats without affecting the wt. of the
CC   testicles.
XX
SQ   Sequence   10 AA;


  Query Match            100.0%;  Score 50;  DB 2;  Length 10;
  Best Local Similarity  100.0%;  Pred. No. 0.008;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||||||
Db      3 wsyglrpg 10


RESULT  13
AAP10411
ID   AAP10411 standard; peptide; 10 AA.
XX
AC   AAP10411;
XX
DT   17-DEC-1992  (first entry)
XX
DE   Luteinising Hormone Releasing Hormone.
XX
KW   LHRH; Follicle Stimulating Factor; FSH; acne; hirsutism;
KW   dysmennorhea; precocious puberty; endometriosis; prostate cancer;
KW   benign prostate hypertrophy; mammary tumour.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= OTHER
FT                   /note= "pyroglutamic acid"
FT   Modified-site   10
FT                   /note= "amidated"
XX
PN   BE885308-A.
XX
PD   19-MAR-1981.
XX
PF   23-FEB-1983;   83BE-0468932.
XX
PR   21-SEP-1979;   79FR-0023545.
XX
PA   (ROUS ) ROUSSEL UCLAF.
XX
DR   WPI; 1981-23409D/14  (23409D).
XX
PT   LH-RH, liberating factor for LH and FSH, and its agonists compsn.
PT   - used to treat prostate adenocarcinoma, benign hypertrophy of
PT   the prostate, hirsutism, acne, etc.
XX
PS   Claim 1(a); Page 15; 27pp; French.
XX
CC   A composition is claimed containing LHRH or its analogues. The
CC   composition is used to treat prostate adenocarcinoma, benign
CC   hypertrophy of the prostate, endometriosis, dysmenorrhea, hirsutism,
CC   hormone-dependent mammary tumours, for treatment or prevention of
CC   precocious puberty, delaying the onset of puberty and for treating
CC   acne. The compositions may also contain antiandrogens.
CC   See also AAP10412-P10418.
XX
SQ   Sequence   10 AA;


  Query Match            100.0%;  Score 50;  DB 2;  Length 10;
  Best Local Similarity  100.0%;  Pred. No. 0.008;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||||||
Db      3 wsyglrpg 10


RESULT  14
AAP10416
ID   AAP10416 standard; peptide; 10 AA.
XX
AC   AAP10416;
XX
DT   17-DEC-1992  (first entry)
XX
DE   Luteinising Hormone Releasing Hormone analogue #5.
XX
KW   LHRH; Follicle Stimulating Factor; FSH; acne; hirsutism;
KW   dysmennorhea; precocious puberty; endometriosis; prostate cancer;
KW   benign prostate hypertrophy; mammary tumour.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /label= OTHER
FT                   /note= "pyroglutamic acid"
FT   Modified-site   7
FT                   /label= OTHER
FT                   /note= "N-alpha-methyl-Leu"
FT   Modified-site   10
FT                   /note= "amidated or absent, in which case Pro(9)
FT                          is Pro-NH-C2H5"
XX
PN   BE885308-A.
XX
PD   19-MAR-1981.
XX
PF   23-FEB-1983;   83BE-0468932.
XX
PR   21-SEP-1979;   79FR-0023545.
XX
PA   (ROUS ) ROUSSEL UCLAF.
XX
DR   WPI; 1981-23409D/14  (23409D).
XX
PT   LH-RH, liberating factor for LH and FSH, and its agonists compsn.
PT   - used to treat prostate adenocarcinoma, benign hypertrophy of
PT   the prostate, hirsutism, acne, etc.
XX
PS   Claim 1(f); Page 16; 27pp; French.
XX
CC   A composition is claimed containing LHRH or its analogues. The
CC   composition is used to treat prostate adenocarcinoma, benign
CC   hypertrophy of the prostate, endometriosis, dysmenorrhea, hirsutism,
CC   hormone-dependent mammary tumours, for treatment or prevention of
CC   precocious puberty, delaying the onset of puberty and for treating
CC   acne. The compositions may also contain antiandrogens.
CC   See AAP10411-P10418.
XX
SQ   Sequence   10 AA;


  Query Match            100.0%;  Score 50;  DB 2;  Length 10;
  Best Local Similarity  100.0%;  Pred. No. 0.008;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 WSYGLRPG 8
          ||||||||
Db      3 wsyglrpg 10


RESULT  15
AAP50222
ID   AAP50222 standard; Protein; 10 AA.
XX
AC   AAP50222;
XX
```

DT 20-JAN-1992 (first entry)
XX
DE Gonadotrophin release stimulating hormone.
XX
KW GnRH; LH-RH; LRF; gonadotrophins; steroids; contraceptive.
XX
OS Synthetic.
XX
PN EP143573-A.
XX
PD 05-JUN-1985.
XX
PF 05-NOV-1984; 84EP-0307625.
XX
PR 29-NOV-1983; 83US-0556148.
PR 30-AUG-1985; 85US-0771517.
XX
PA (SALK) SALK INST FOR BIOL STUD.
XX
PI Roeske RW, Rivier JE, Vale WW;
XX
DR WPI; 1985-136434/23.
XX
PT New GnRH antagonist peptide(s) - useful as inhibitors of
PT gonadotropin(s) and/or steroid(s) for contraceptive use.
XX
PS Disclosure; Page 1; 20pp; English.
XX
CC The claimed peptide antagonists inhibit the release of gonadotrophins
CC and/or steroids. They are antagonistic to GnRH, inhibit ovulation, and
CC may cause resorption of a fertilised egg if administered shortly after
CC absorption. The peptides also have utility in male contraception, and
CC in treatment of precoscious puberty, hormone dependent neoplasia,
CC dysmenorrhoea and endometriosis.
XX
SQ Sequence 10 AA;

Query Match 100.0%; Score 50; DB 6; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.008;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 WSYGLRPG 8
||||||||
Db 3 wsyglrpg 10

Search completed: March 13, 2002, 08:50:20
Job time: 268 sec

GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 08:47:09 ; Search time 62.59 Seconds
(without alignments)
10.953 Million cell updates/sec

Title: US-09-462-089-4
Perfect score: 48
Sequence: 1 GSGSGLRPG 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 219241 seqs, 76174552 residues

Total number of hits satisfying chosen parameters: 219241

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_68:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	42	87.5	395	2	T45599	hypothetical prote
2	40	83.3	543	2	A32693	steroid receptor p
3	40	83.3	746	2	B32693	steroid receptor p
4	40	83.3	1638	2	T25352	hypothetical prote
5	40	83.3	7463	2	T36248	CDA peptide synthe
6	39	81.2	603	2	A75373	probable N-acetylm
7	37	77.1	295	2	T14912	leucyl aminopeptid
8	37	77.1	505	2	H85361	leucyl aminopeptid
9	37	77.1	520	1	S22399	leucyl aminopeptid
10	37	77.1	525	2	A85362	leucyl aminopeptid
11	37	77.1	569	2	S57812	leucyl aminopeptid
12	37	77.1	573	1	S41376	leucyl aminopeptid
13	36	75.0	151	1	DSRPZC	superoxide dismuta
14	36	75.0	152	2	S22508	superoxide dismuta
15	36	75.0	152	2	S21136	superoxide dismuta
16	36	75.0	152	2	S07007	superoxide dismuta
17	36	75.0	152	2	S72235	superoxide dismuta
18	36	75.0	258	2	F71401	hypothetical prote
19	36	75.0	266	2	T05471	hypothetical prote
20	36	75.0	326	2	S74443	regulatory protein
21	36	75.0	373	2	A49806	prv43 protein - su
22	36	75.0	507	2	S52677	probable membrane
23	36	75.0	532	2	T35119	probable aminotran
24	36	75.0	632	2	T37810	RNA-binding post-t
25	36	75.0	686	2	B85153	hypothetical prote
26	36	75.0	862	2	I49583	differentiation an
27	36	75.0	868	2	A46512	CD22 homolog/B lym
28	36	75.0	1070	2	E71401	probable selenium-
29	36	75.0	1505	2	JC4851	hypoxia-inducible
30	35	72.9	145	1	R5YM15	ribosomal protein
31	35	72.9	146	1	R5BSL5	ribosomal protein
32	35	72.9	146	2	T44402	ribosomal protein
33	35	72.9	147	2	G86884	50S ribosomal prot
34	35	72.9	151	2	A29077	superoxide dismuta
35	35	72.9	189	2	B70624	probable potassium
36	35	72.9	288	2	T17737	proline-rich prote
37	35	72.9	385	2	H84411	hypothetical prote
38	35	72.9	461	2	A43782	keratin, type II -
39	35	72.9	508	2	A31637	transcription fact
40	35	72.9	919	2	JC5934	exostose-related p
41	35	72.9	1597	1	BVFFSL	sol protein, large
42	35	72.9	1597	2	T08428	gene small optic l
43	35	72.9	2440	2	S39162	transcription coac
44	35	72.9	2441	2	S39161	CREB-binding prote
45	35	72.9	3415	2	A46105	polyprotein(NS1, N

ALIGNMENTS

RESULT 1
T45599
hypothetical protein F12A12.140 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 04-Feb-2000 #sequence_revision 04-Feb-2000 #text_change 02-Sep-2000
C;Accession: T45599
R;Choisne, N.; Robert, C.; Brottier, P.; Wincker, P.; Cattolico, L.; Artiguenave, F.; submitted to the Protein Sequence Database, December 1999
A;Reference number: Z23008
A;Accession: T45599
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-395 <CHO>
A;Cross-references: EMBL:AL133314
A;Experimental source: cultivar Columbia; BAC clone F12A12
C;Genetics:
A;Map position: 3
A;Note: F12A12.140
C;Superfamily: RING finger homology
F;211-261/Domain: RING finger homology <RRN>

Query Match 87.5%; Score 42; DB 2; Length 395;
Best Local Similarity 100.0%; Pred. No. 7.2;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSGSGLRP 8
||||||||
Db 145 GSGSGLRP 152

RESULT 2
A32693
steroid receptor protein svp 1 - fruit fly (Drosophila melanogaster)
C;Species: Drosophila melanogaster
C;Date: 22-Jun-1990 #sequence_revision 22-Jun-1990 #text_change 20-Sep-1999
C;Accession: A32693
R;Mlodzik, M.; Hiromi, Y.; Weber, U.; Goodman, C.S.; Rubin, G.M.
Cell 60, 211-224, 1990
A;Title: The Drosophila seven-up gene, a member of the steroid receptor gene superfam
A;Reference number: A32693; MUID:90124631
A;Accession: A32693
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-543 <MLO>
A;Cross-references: GB:M28863; NID:g158518; PIDN:AAA62770.1; PID:g158519
C;Genetics:
A;Gene: FlyBase:svp
A;Cross-references: FlyBase:FBgn0003651
C;Superfamily: unassigned erbA-related proteins; erbA transforming protein homology
C;Keywords: alternative splicing; DNA binding; steroid hormone receptor; transcriptio
F;198-452/Domain: erbA transforming protein homology <ERBA>

F;200-220/Region: zinc finger
F;236-260/Region: zinc finger

Query Match 83.3%; Score 40; DB 2; Length 543;
Best Local Similarity 77.8%; Pred. No. 22;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GSGSGLRPG 9
|||||: ||
Db 134 GSGSGVNPG 142

RESULT 3
B32693
steroid receptor protein svp 2 - fruit fly (Drosophila melanogaster)
C;Species: Drosophila melanogaster
C;Date: 22-Jun-1990 #sequence_revision 22-Jun-1990 #text_change 12-Sep-1997
C;Accession: B32693
R;Mlodzik, M.; Hiromi, Y.; Weber, U.; Goodman, C.S.; Rubin, G.M.
Cell 60, 211-224, 1990
A;Title: The Drosophila seven-up gene, a member of the steroid receptor gene superfamily
A;Reference number: A32693; MUID:90124631
A;Accession: B32693
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-746 <MLO>
A;Cross-references: GB:M28863; GB:M28864
C;Genetics:
A;Gene: FlyBase:svp
A;Cross-references: FlyBase:FBgn0003651
C;Superfamily: unassigned erbA-related proteins; erbA transforming protein homology
C;Keywords: alternative splicing; DNA binding; steroid hormone receptor; transcription r
F;198-452/Domain: erbA transforming protein homology <ERBA>
F;200-220/Region: zinc finger
F;236-260/Region: zinc finger

Query Match 83.3%; Score 40; DB 2; Length 746;
Best Local Similarity 77.8%; Pred. No. 30;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GSGSGLRPG 9
|||||: ||
Db 134 GSGSGVNPG 142

RESULT 4
T25352
hypothetical protein T27C5.9 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
C;Accession: T25352
R;Cummings, P.
submitted to the EMBL Data Library, November 1996
A;Reference number: Z20020
A;Accession: T25352
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-1638 <WIL>
A;Cross-references: EMBL:Z82058; PIDN:CAB04870.1; GSPDB:GN00023; CESP:T27C5.9
A;Experimental source: clone T27C5
C;Genetics:
A;Gene: CESP:T27C5.9
A;Map position: 5
A;Introns: 1432/2

Query Match 83.3%; Score 40; DB 2; Length 1638;
Best Local Similarity 77.8%; Pred. No. 65;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GSGSGLRPG 9
||| |:|||
Db 69 GSGLGIRPG 77

RESULT 5
T36248
CDA peptide synthetase I - Streptomyces coelicolor
C;Species: Streptomyces coelicolor
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 01-Dec-2000
C;Accession: T36248
R;Saunder, D.C.; Harris, D.; Bentley, S.D.; Parkhill, J.; Barrell, B.G.; Rajandream,
submitted to the EMBL Data Library, March 1999
A;Reference number: Z21602
A;Accession: T36248
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-7463 <SAU>
A;Cross-references: EMBL:AL035640; PIDN:CAB38518.1; GSPDB:GN00070; SCOEDB:SCE63.03c
A;Experimental source: strain A3(2)
C;Genetics:
A;Gene: cdaPSI; SCOEDB:SCE63.03c
C;Superfamily: acetate--CoA ligase homology; acyl carrier protein homology
C;Keywords: carrier protein; phosphopantetheine; phosphoprotein
F;516-1074/Domain: acetate--CoA ligase homology #status atypical <ACL1>
F;1090-1158/Domain: acyl carrier protein homology <ACP1>
F;1715-2184/Domain: acetate--CoA ligase homology <ACL2>
F;2200-2268/Domain: acyl carrier protein homology <ACP2>
F;2804-3249/Domain: acetate--CoA ligase homology <ACL3>
F;3265-3332/Domain: acyl carrier protein homology <ACP3>
F;4323-4746/Domain: acetate--CoA ligase homology <ACL4>
F;4762-4830/Domain: acyl carrier protein homology <ACP4>
F;5363-5786/Domain: acetate--CoA ligase homology <ACL5>
F;5802-5870/Domain: acyl carrier protein homology <ACP5>
F;6401-6868/Domain: acetate--CoA ligase homology <ACL6>
F;6884-6951/Domain: acyl carrier protein homology <ACP6>
F;1122,2232,3297,4794,5834,6916/Binding site: phosphopantetheine (Ser) (covalent) #st

Query Match 83.3%; Score 40; DB 2; Length 7463;
Best Local Similarity 77.8%; Pred. No. 2.9e+02;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GSGSGLRPG 9
|:||| |||
Db 976 GTGSGARPG 984

RESULT 6
A75373
probable N-acetylmuramoyl-L-alanine amidase - Deinococcus radiodurans (strain R1)
C;Species: Deinococcus radiodurans
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 31-Mar-2000
C;Accession: A75373
R;White, O.; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, J.D.; Dodson, R.J
, M.; Shen, M.; Vamathevan, J.J.; Lam, P.; McDonald, L.; Utterback, T.; Zalewski, C.;
S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.
Science 286, 1571-1577, 1999
A;Title: Genome sequence of the radioresistant bacterium Deinococcus radiodurans R1.
A;Reference number: A75250; MUID:20036896
A;Accession: A75373
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-603 <WHI>
A;Cross-references: GB:AE002007; GB:AE000513; NID:g6459402; PIDN:AAF11192.1; PID:g645
A;Experimental source: strain R1
C;Genetics:
A;Gene: DR1632
A;Map position: 1

Query Match 81.2%; Score 39; DB 2; Length 603;
Best Local Similarity 77.8%; Pred. No. 36;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

```
Qy      1 GSGSGLRPG 9
          | |:|||||
Db    537 GIGAGLRPG 545


RESULT   7
T14912
leucyl aminopeptidase (EC 3.4.11.1) - parsley (fragment)
N;Alternate names: leucine aminopeptidase
C;Species: Petroselinum crispum (parsley)
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Jun-2000
C;Accession: T14912
R;Ernst, D.
submitted to the EMBL Data Library, July 1996
A;Reference number: Z18262
A;Accession: T14912
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-295 <ERN>
A;Cross-references: EMBL:X99825
A;Experimental source: leaf
C;Function:
A;Description: catalyzes hydrolysis of amino-terminal amino acid residues; prefers remov
C;Superfamily: cytosol aminopeptidase
C;Keywords: alpha-aminoacylpeptide hydrolase


  Query Match             77.1%;  Score 37;  DB 2;  Length 295;
  Best Local Similarity   75.0%;  Pred. No. 39;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      2 SGSGLRPG 9
          ||:|:|||
Db    124 SGAGMRPG 131


RESULT   8
H85361
leucyl aminopeptidase-like protein (partial) [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 02-Mar-2001
C;Accession: H85361
R;anonymous, The European Union Arabidopsis Genome Sequencing Consortium, The Cold Sprin
Nature 402, 769-777, 1999
A;Title: Sequence and analysis of chromosome 4 of the plant Arabidopsis thaliana.
A;Reference number: A85001; MUID:20083488
A;Accession: H85361
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-505 <STO>
A;Cross-references: GB:NC_001268; NID:g7269992; PIDN:CAB79809.1; GSPDB:GN00140
C;Genetics:
A;Gene: AT4g30910
A;Map position: 4
C;Superfamily: cytosol aminopeptidase


  Query Match             77.1%;  Score 37;  DB 2;  Length 505;
  Best Local Similarity   75.0%;  Pred. No. 67;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      2 SGSGLRPG 9
          ||:|:|||
Db    335 SGTGMRPG 342


RESULT   9
S22399
leucyl aminopeptidase (EC 3.4.11.1) - Arabidopsis thaliana
N;Alternate names: leucine aminopeptidase
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 02-Mar-2001
C;Accession: S22399; G84633
R;Bartling, D.; Weiler, E.W.
Eur. J. Biochem. 205, 425-431, 1992
A;Title: Leucine aminopeptidase from Arabidopsis thaliana. Molecular evidence for a p
A;Reference number: S22399; MUID:92209533
A;Accession: S22399
A;Molecule type: mRNA
A;Residues: 1-520 <BAR>
A;Cross-references: EMBL:X63444; NID:g16393; PIDN:CAA45040.1; PID:g16394
R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y
M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon,
euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter
Nature 402, 761-768, 1999
A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.
A;Reference number: A84420; MUID:20083487
A;Accession: G84633
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-520 <STO>
A;Cross-references: GB:AE002093; NID:g4115380; PIDN:AAD03381.1; GSPDB:GN00139
C;Genetics:
A;Gene: At2g24200
A;Map position: 2
C;Superfamily: cytosol aminopeptidase
C;Keywords: alpha-aminoacylpeptide hydrolase


  Query Match             77.1%;  Score 37;  DB 1;  Length 520;
  Best Local Similarity   75.0%;  Pred. No. 69;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      2 SGSGLRPG 9
          ||:|:|||
Db    349 SGTGMRPG 356


RESULT  10
A85362
leucyl aminopeptidase-like protein [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 02-Mar-2001
C;Accession: A85362
R;anonymous, The European Union Arabidopsis Genome Sequencing Consortium, The Cold Sp
Nature 402, 769-777, 1999
A;Title: Sequence and analysis of chromosome 4 of the plant Arabidopsis thaliana.
A;Reference number: A85001; MUID:20083488
A;Accession: A85362
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-525 <STO>
A;Cross-references: GB:NC_001268; NID:g7269993; PIDN:CAB79810.1; GSPDB:GN00140
C;Genetics:
A;Gene: AT4g30920
A;Map position: 4
C;Superfamily: cytosol aminopeptidase


  Query Match             77.1%;  Score 37;  DB 2;  Length 525;
  Best Local Similarity   75.0%;  Pred. No. 69;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      2 SGSGLRPG 9
          ||:|:|||
Db    354 SGTGMRPG 361


RESULT  11
S57812
leucyl aminopeptidase (EC 3.4.11.1) (clone TPP24) - tomato
N;Alternate names: leucine aminopeptidase
C;Species: Lycopersicon esculentum (tomato)
C;Date: 12-Feb-1998 #sequence_revision 20-Feb-1998 #text_change 22-Jun-1999
C;Accession: S57812
```

R;Milligan, S.B.; Gasser, C.S.
Plant Mol. Biol. 28, 691-711, 1995
A;Title: Nature and regulation of pistil-expressed genes in tomato.
A;Reference number: S57808; MUID:95375233
A;Accession: S57812
A;Status: preliminary; nucleic acid sequence not shown
A;Molecule type: mRNA
A;Residues: 1-569 <MIL>
A;Cross-references: EMBL:U20594; NID:g924629; PIDN:AAA80499.1; PID:g924630
A;Note: the authors did not translate the codon for residue 315
C;Superfamily: cytosol aminopeptidase
C;Keywords: alpha-aminoacylpeptide hydrolase

Query Match 77.1%; Score 37; DB 2; Length 569;
Best Local Similarity 75.0%; Pred. No. 75;
Matches 6; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 2 SGSGLRPG 9
||:|:|||
Db 400 SGTGMRPG 407

RESULT 12
S41376
leucyl aminopeptidase (EC 3.4.11.1) - potato
N;Alternate names: wound-induced protein (clone 17)
C;Species: Solanum tuberosum (potato)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: S41376; PQ0470; S24769
R;Herbers, K.; Prat, S.; Willmitzer, L.
submitted to the EMBL Data Library, December 1993
A;Description: Functional analysis of a leucine aminopeptidase from Solanum tuberosum L.
A;Reference number: S41376
A;Accession: S41376
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-573 <HER>
A;Cross-references: EMBL:X77015; NID:g443978; PIDN:CAA54314.1; PID:g443979
R;Hildmann, T.; Ebneth, M.; Pena-Cortes, H.; Sanchez-Serrano, J.J.; Willmitzer, L.; Prat
Plant Cell 4, 1157-1170, 1992
A;Title: General roles of abscisic and jasmonic acids in gene activation as a result of
A;Reference number: JQ1692; MUID:93005746
A;Accession: PQ0470
A;Molecule type: mRNA
A;Residues: 20-573 <HIL>
A;Cross-references: EMBL:X67845; NID:g21486; PIDN:CAA48038.1; PID:g21487
A;Experimental source: strain desiree
C;Superfamily: cytosol aminopeptidase
C;Keywords: alpha-aminoacylpeptide hydrolase

Query Match 77.1%; Score 37; DB 1; Length 573;
Best Local Similarity 75.0%; Pred. No. 76;
Matches 6; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 2 SGSGLRPG 9
||:|:|||
Db 403 SGAGMRPG 410

RESULT 13
DSRPZC
superoxide dismutase (EC 1.15.1.1) (Cu-Zn) - cabbage
C;Species: Brassica oleracea var. capitata (cabbage)
C;Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 05-Mar-1999
C;Accession: A25569
R;Steffens, G.J.; Michelson, A.M.; Oetting, F.; Puget, K.; Strassburger, W.; Flohe, L.
Biol. Chem. Hoppe-Seyler 367, 1007-1016, 1986
A;Title: Primary structure of Cu-Zn superoxide dismutase of Brassica oleracea proves hom
A;Reference number: A25569; MUID:87076036
A;Accession: A25569
A;Molecule type: protein
A;Residues: 1-151 <STE>
C;Complex: homodimer
C;Function:
A;Description: catalyzes the dismutation of 2 molecules of peroxide radical to dioxyg
C;Superfamily: superoxide dismutase (Cu-Zn)
C;Keywords: copper; metalloprotein; oxidoreductase; zinc
F;44,46,61,118/Binding site: copper (His) #status predicted
F;55-144/Disulfide bonds: #status predicted
F;61,69,78,81/Binding site: zinc (His, His, His, Asp) #status predicted
F;141/Active site: Arg #status predicted

Query Match 75.0%; Score 36; DB 1; Length 151;
Best Local Similarity 77.8%; Pred. No. 30;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GSGSGLRPG 9
|: ||||||
Db 31 GTVSGLRPG 39

RESULT 14
S22508
superoxide dismutase (EC 1.15.1.1) (Cu-Zn) sodA - rice
C;Species: Oryza sativa (rice)
C;Date: 12-Feb-1993 #sequence_revision 12-Feb-1993 #text_change 20-Jun-2000
C;Accession: S22508
R;Sakamoto, A.; Ohsuga, H.; Tanaka, K.
Plant Mol. Biol. 19, 323-327, 1992
A;Title: Nucleotide sequences of two cDNA clones encoding different Cu/Zn-superoxide
A;Reference number: S22508; MUID:92322961
A;Accession: S22508
A;Molecule type: mRNA
A;Residues: 1-152 <SAK>
A;Cross-references: EMBL:D00999; NID:g218223; PIDN:BAA00799.1; PID:g218224
A;Experimental source: clone RSODA
C;Genetics:
A;Gene: sodA
C;Function:
A;Description: catalyzes the dismutation of 2 molecules of peroxide radical to dioxyg
C;Superfamily: superoxide dismutase (Cu-Zn)
C;Keywords: copper; metalloprotein; oxidoreductase; zinc
F;45,47,62,119/Binding site: copper (His) #status predicted
F;56-145/Disulfide bonds: #status predicted
F;62,70,79,82/Binding site: zinc (His, His, His, Asp) #status predicted
F;142/Active site: Arg #status predicted

Query Match 75.0%; Score 36; DB 2; Length 152;
Best Local Similarity 77.8%; Pred. No. 30;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GSGSGLRPG 9
|| |||:||
Db 32 GSVSGLKPG 40

RESULT 15
S21136
superoxide dismutase (EC 1.15.1.1) (Cu-Zn) sodB - rice
C;Species: Oryza sativa (rice)
C;Date: 22-Nov-1993 #sequence_revision 23-Feb-1996 #text_change 20-Jun-2000
C;Accession: S21136; S26354
R;Sakamoto, A.; Okumura, T.; Ohsuga, H.; Tanaka, K.
FEBS Lett. 301, 185-189, 1992
A;Title: Genomic structure of the gene for copper/zinc-superoxide dismutase in rice.
A;Reference number: S21136; MUID:92233942
A;Accession: S21136
A;Molecule type: DNA
A;Residues: 1-152 <SAK>
A;Cross-references: EMBL:L19434; NID:g310320; PIDN:AAC14465.1; PID:g310321
A;Experimental source: cv. Nipponbare; clone gSOD7
R;Sakamoto, A.; Ohsuga, H.; Tanaka, K.

Plant Mol. Biol. 19, 323-327, 1992
A;Title: Nucleotide sequences of two cDNA clones encoding different Cu/Zn-superoxide dis
A;Reference number: S22508; MUID:92322961
A;Accession: S26354
A;Molecule type: mRNA
A;Residues: 1-152 <SAW>
A;Cross-references: EMBL:D01000; NID:g218225; PIDN:BAA00800.1; PID:g218226
A;Experimental source: clone RSODB
C;Genetics:
A;Gene: sodB
A;Introns: 26/1; 60/1; 92/1; 102/3; 128/1; 146/1
C;Function:
A;Description: catalyzes the dismutation of 2 molecules of peroxide radical to dioxygen
C;Superfamily: superoxide dismutase (Cu-Zn)
C;Keywords: copper; metalloprotein; oxidoreductase; zinc
F;45,47,62,119/Binding site: copper (His) #status predicted
F;56-145/Disulfide bonds: #status predicted
F;62,70,79,82/Binding site: zinc (His, His, His, Asp) #status predicted
F;142/Active site: Arg #status predicted

Query Match 75.0%; Score 36; DB 2; Length 152;
Best Local Similarity 77.8%; Pred. No. 30;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

```
Qy       1 GSGSGLRPG 9
             || |||:||
Db      32 GSVSGLKPG 40
```

Search completed: March 13, 2002, 08:47:11
Job time: 79 sec

GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 09:05:42 ; Search time 74.71 Seconds
(without alignments)
4.417 Million cell updates/sec

Title: US-09-462-089-4
Perfect score: 48
Sequence: 1 GSGSGLRPG 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 100059 seqs, 36664827 residues

Total number of hits satisfying chosen parameters: 100059

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_39:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	40	83.3	543	1	7UP1_DROME	P16375 drosophila
2	40	83.3	746	1	7UP2_DROME	P16376 drosophila
3	37	77.1	314	1	SIX3_CHICK	O42406 gallus gall
4	37	77.1	520	1	AMPL_ARATH	P30184 arabidopsis
5	37	77.1	569	1	AMP2_LYCES	Q42876 lycopersico
6	37	77.1	573	1	AMPL_SOLTU	P31427 solanum tub
7	36	75.0	151	1	SOD1_ORYSA	P28756 oryza sativ
8	36	75.0	151	1	SOD2_ORYSA	P28757 oryza sativ
9	36	75.0	151	1	SOD4_MAIZE	P23345 zea mays (m
10	36	75.0	151	1	SOD5_MAIZE	P23346 zea mays (m
11	36	75.0	151	1	SODC_BRAOC	P09678 brassica ol
12	36	75.0	152	1	SOD1_MESCR	P93258 mesembryant
13	36	75.0	507	1	ALAT_YEAST	P52892 saccharomyc
14	36	75.0	632	1	CSX1_SCHPO	O13759 schizosacch
15	36	75.0	862	1	CD22_MOUSE	P35329 mus musculu
16	36	75.0	1507	1	SIMA_DROME	Q24167 drosophila
17	35	72.9	145	1	RL15_MYCCA	P10138 mycoplasma
18	35	72.9	146	1	RL15_BACHD	P38373 bacillus ha
19	35	72.9	146	1	RL15_BACSU	P19946 bacillus su
20	35	72.9	146	1	RL15_STAAU	O06445 staphylococ
21	35	72.9	147	1	RL15_LACLA	P58121 lactococcus
22	35	72.9	150	1	SODC_MAIZE	P11428 zea mays (m
23	35	72.9	152	1	SODC_ANACO	Q9sql5 ananas como
24	35	72.9	152	1	SODC_ZANAE	O65174 zantedeschi
25	35	72.9	183	1	SODE_HAECO	P51547 haemonchus
26	35	72.9	189	1	ATKC_MYCTU	P96369 mycobacteri
27	35	72.9	198	1	ATKC_THEAC	P57688 thermoplasm
28	35	72.9	287	1	SMN_CANFA	O02771 canis famil
29	35	72.9	508	1	SRF_HUMAN	P11831 homo sapien
30	35	72.9	919	1	EXL3_HUMAN	O43909 homo sapien
31	35	72.9	1597	1	SOL_DROME	P27398 drosophila
32	35	72.9	2441	1	CBP_MOUSE	P45481 mus musculu
33	35	72.9	2442	1	CBP_HUMAN	Q92793 homo sapien
34	35	72.9	3415	1	POLG_POWVL	Q04538 t genome po
35	34	70.8	274	1	AMP2_SYNY3	P53580 synechocyst
36	34	70.8	370	1	DNAJ_BACHD	Q9kd71 bacillus ha
37	34	70.8	375	1	DNAJ_BRUOV	Q05980 brucella ov
38	34	70.8	387	1	DNAJ_METTE	Q9uxr9 methanosarc
39	34	70.8	424	1	THC2_METTH	O27617 methanobact
40	34	70.8	480	1	GAT2_HUMAN	P23769 homo sapien
41	34	70.8	495	1	BRN1_MOUSE	P31361 mus musculu
42	34	70.8	497	1	BRN1_RAT	Q63262 rattus norv
43	34	70.8	500	1	BRN1_HUMAN	P20264 homo sapien
44	34	70.8	547	1	THIC_MYCLE	Q9zbl0 mycobacteri
45	34	70.8	547	1	THIC_MYCTU	P96269 mycobacteri

ALIGNMENTS

RESULT 1
7UP1_DROME
ID 7UP1_DROME STANDARD; PRT; 543 AA.
AC P16375; Q9VGB0;
DT 01-AUG-1990 (Rel. 15, Created)
DT 01-AUG-1990 (Rel. 15, Last sequence update)
DT 20-AUG-2001 (Rel. 40, Last annotation update)
DE STEROID RECEPTOR SEVEN-UP TYPE 1.
GN SVP OR NR2F3 OR CG11502.
OS Drosophila melanogaster (Fruit fly).
OC Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
OC Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
OC Ephydroidea; Drosophilidae; Drosophila.
OX NCBI_TaxID=7227;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90124631; PubMed=2105166;
RA Mlodzik M., Hiromi Y., Weber U., Goodman C.S., Rubin G.M.;
RT "The Drosophila seven-up gene, a member of the steroid receptor gene
RT superfamily, controls photoreceptor cell fates.";
RL Cell 60:211-224(1990).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=BERKELEY;
RX MEDLINE=20196006; PubMed=10731132;
RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G.,
RA Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Durbin K.J., Evangelista C.C., Ferraz C., Ferriera S., Fleischmann W.,
RA Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C.,
RA Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Liu X., Mattei B., McIntosh T.C., McLeod M.P., McPherson D.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
RA Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
RA Spier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
RA Svirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,

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RA   Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA   Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
RA   Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
RA   Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zhu X., Smith H.O.,
RA   Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.;
RT   "The genome sequence of Drosophila melanogaster.";
RL   Science 287:2185-2195(2000).
CC   -!- FUNCTION: PUTATIVE RECEPTOR THAT IS REQUIRED IN PHOTORECEPTOR
CC       CELLS PRECURSORS DURING EYE DEVELOPMENT.
CC   -!- SUBCELLULAR LOCATION: NUCLEAR (POTENTIAL).
CC   -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; TYPE 1 (SHOWN HERE) AND TYPE 2
CC       (AC P16376); ARE PRODUCED BY ALTERNATIVE SPLICING AND ONLY DIFFER
CC       IN THEIR C-TERMINAL PART.
CC   -!- TISSUE SPECIFICITY: EXPRESSED IN A SUBSET OF NEURAL PRECURSORS.
CC   -!- SIMILARITY: BELONGS TO THE NUCLEAR HORMONE RECEPTORS FAMILY.
CC       NR3 SUBFAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; M28863; AAA62770.1; -.
DR   EMBL; AE003695; AAF54773.1; -.
DR   PIR; A32693; A32693.
DR   HSSP; P19793; 2NLL.
DR   FlyBase; FBgn0003651; svp.
DR   InterPro; IPR000536; Hormone_rec_lig.
DR   InterPro; IPR001723; Strdhormone_rcptor.
DR   InterPro; IPR001628; zf-C4.
DR   Pfam; PF00104; hormone_rec; 1.
DR   Pfam; PF00105; zf-C4; 1.
DR   PRINTS; PR00047; STROIDFINGER.
DR   PRINTS; PR00398; STRDHORMONER.
DR   PRINTS; PR01282; COUPTNFACTOR.
DR   SMART; SM00430; HOLI; 1.
DR   SMART; SM00399; ZnF_C4; 1.
DR   PROSITE; PS00031; NUCLEAR_RECEPTOR; 1.
KW   Receptor; Transcription regulation; DNA-binding; Nuclear protein;
KW   Zinc-finger; Vision; Alternative splicing.
FT   DNA_BIND    200    265       NUCLEAR RECEPTOR-TYPE.
FT   ZN_FING     200    220       C4-TYPE.
FT   ZN_FING     236    260       C4-TYPE.
SQ   SEQUENCE   543 AA;  57987 MW;  0BC189DCF1A27213 CRC64;


  Query Match             83.3%;  Score 40;  DB 1;  Length 543;
  Best Local Similarity   77.8%;  Pred. No. 11;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           |||||: ||
Db     134 GSGSGVNPG 142


RESULT   2
7UP2_DROME
ID   7UP2_DROME     STANDARD;      PRT;   746 AA.
AC   P16376;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-NOV-1990 (Rel. 16, Last sequence update)
DT   15-JUL-1999 (Rel. 38, Last annotation update)
DE   STEROID RECEPTOR SEVEN-UP TYPE 2.
GN   SVP OR NR2F3.
OS   Drosophila melanogaster (Fruit fly).
OC   Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
OC   Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
OC   Ephydroidea; Drosophilidae; Drosophila.
OX   NCBI_TaxID=7227;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90124631; PubMed=2105166;
RA   Mlodzik M., Hiromi Y., Weber U., Goodman C.S., Rubin G.M.;
RT   "The Drosophila seven-up gene, a member of the steroid receptor gene
RT   superfamily, controls photoreceptor cell fates.";
RL   Cell 60:211-224(1990).
CC   -!- FUNCTION: PUTATIVE RECEPTOR THAT IS REQUIRED IN PHOTORECEPTOR
CC       CELLS PRECURSORS DURING EYE DEVELOPMENT.
CC   -!- SUBCELLULAR LOCATION: NUCLEAR (POTENTIAL).
CC   -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; TYPE 1 (AC P16375) AND TYPE 2
CC       (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING AND ONLY DIFFER
CC       IN THEIR C-TERMINAL PART.
CC   -!- TISSUE SPECIFICITY: EXPRESSED IN A SUBSET OF NEURAL PRECURSORS.
CC   -!- SIMILARITY: BELONGS TO THE NUCLEAR HORMONE RECEPTORS FAMILY.
CC       NR2 SUBFAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; M28864; AAA03014.1; -.
DR   PIR; B32693; B32693.
DR   HSSP; P19793; 2NLL.
DR   FlyBase; FBgn0003651; svp.
DR   InterPro; IPR000536; Hormone_rec_lig.
DR   InterPro; IPR001628; zf-C4.
DR   Pfam; PF00104; hormone_rec; 1.
DR   Pfam; PF00105; zf-C4; 1.
DR   PRINTS; PR00047; STROIDFINGER.
DR   SMART; SM00430; HOLI; 1.
DR   SMART; SM00399; ZnF_C4; 1.
DR   PROSITE; PS00031; NUCLEAR_RECEPTOR; 1.
KW   Receptor; Transcription regulation; DNA-binding; Nuclear protein;
KW   Zinc-finger; Vision; Alternative splicing.
FT   DNA_BIND    200    265       NUCLEAR RECEPTOR-TYPE.
FT   ZN_FING     200    220       C4-TYPE.
FT   ZN_FING     236    260       C4-TYPE.
SQ   SEQUENCE   746 AA;  76830 MW;  7F256AFD4165326D CRC64;


  Query Match             83.3%;  Score 40;  DB 1;  Length 746;
  Best Local Similarity   77.8%;  Pred. No. 14;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           |||||: ||
Db     134 GSGSGVNPG 142


RESULT   3
SIX3_CHICK
ID   SIX3_CHICK     STANDARD;      PRT;   314 AA.
AC   O42406;
DT   15-DEC-1998 (Rel. 37, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   HOMEOBOX PROTEIN SIX3 (SINE OCULIS HOMEOBOX HOMOLOG 3) (CSIX3).
GN   SIX3.
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=98168856; PubMed=9510037;
RA   Bovolenta P., Mallamaci A., Puelles L., Boncinelli E.;
RT   "Expression pattern of cSix3, a member of the Six/sine oculis family
RT   of transcription factors.";
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RL   Mech. Dev. 70:201-203(1998).
CC   -!- FUNCTION: MAY BE INVOLVED IN VISUAL SYSTEM DEVELOPMENT.
CC   -!- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE SIX/SINE OCULIS FAMILY OF HOMEODOMAIN
CC       PROTEINS.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; Y15106; CAA75380.1; -.
DR   InterPro; IPR001356; Homeobox.
DR   Pfam; PF00046; homeobox; 1.
DR   SMART; SM00389; HOX; 1.
DR   PROSITE; PS00027; HOMEOBOX_1; FALSE_NEG.
DR   PROSITE; PS50071; HOMEOBOX_2; 1.
KW   Developmental protein; Homeobox; DNA-binding; Nuclear protein.
FT   DOMAIN       44     50       POLY-GLY.
FT   DNA_BIND    188    247       HOMEOBOX.
FT   DOMAIN      245    248       POLY-ALA.
SQ   SEQUENCE   314 AA;  34677 MW;  D9A04530185BA75F CRC64;


  Query Match             77.1%;  Score 37;  DB 1;  Length 314;
  Best Local Similarity   77.8%;  Pred. No. 21;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
             |||||  ||
Db      36 GSGSGCSPG 44


RESULT   4
AMPL_ARATH
ID   AMPL_ARATH     STANDARD;      PRT;   520 AA.
AC   P30184;
DT   01-APR-1993 (Rel. 25, Created)
DT   01-APR-1993 (Rel. 25, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   CYTOSOL AMINOPEPTIDASE (EC 3.4.11.1) (LEUCINE AMINOPEPTIDASE) (LAP)
DE   (LEUCYL AMINOPEPTIDASE) (PROLINE AMINOPEPTIDASE) (EC 3.4.11.5) (PROLYL
DE   AMINOPEPTIDASE).
GN   AT2G24200 OR F27D4.11.
OS   Arabidopsis thaliana (Mouse-ear cress).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC   eurosids II; Brassicales; Brassicaceae; Arabidopsis.
OX   NCBI_TaxID=3702;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CV. LANDSBERG ERECTA; TISSUE=Leaf;
RX   MEDLINE=92209533; PubMed=1555602;
RA   Bartling D., Weiler E.W.;
RT   "Leucine aminopeptidase from Arabidopsis thaliana. Molecular evidence
RT   for a phylogenetically conserved enzyme of protein turnover in higher
RT   plants.";
RL   Eur. J. Biochem. 205:425-431(1992).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CV. COLUMBIA;
RX   MEDLINE=20083487; PubMed=10617197;
RA   Lin X., Kaul S., Rounsley S.D., Shea T.P., Benito M.-I., Town C.D.,
RA   Fujii C.Y., Mason T.M., Bowman C.L., Barnstead M.E., Feldblyum T.V.,
RA   Buell C.R., Ketchum K.A., Lee J.J., Ronning C.M., Koo H.L.,
RA   Moffat K.S., Cronin L.A., Shen M., VanAken S.E., Umayam L.,
RA   Tallon L.J., Gill J.E., Adams M.D., Carrera A.J., Creasy T.H.,
RA   Goodman H.M., Somerville C.R., Copenhaver G.P., Preuss D.,
RA   Nierman W.C., White O., Eisen J.A., Salzberg S.L., Fraser C.M.,
RA   Venter J.C.;
RT   "Sequence and analysis of chromosome 2 of the plant Arabidopsis
RT   thaliana.";
RL   Nature 402:761-768(1999).
CC   -!- FUNCTION: PRESUMABLY INVOLVED IN THE PROCESSING AND REGULAR
CC       TURNOVER OF INTRACELLULAR PROTEINS. CATALYZES THE REMOVAL OF
CC       UNSUBSTITUTED AMINO-TERMINAL AMINO ACIDS FROM VARIOUS PEPTIDES.
CC   -!- CATALYTIC ACTIVITY: RELEASE OF AN N-TERMINAL AMINO ACID, XAA-|-
CC       XBB-, IN WHICH XAA IS PREFERABLY LEU, BUT MAY BE OTHER AMINO ACIDS
CC       INCLUDING PRO ALTHOUGH NOT ARG OR LYS, AND XBB MAY BE PRO.
CC   -!- COFACTOR: BINDS TWO ZINC IONS (BY SIMILARITY).
CC   -!- SUBUNIT: HOMOHEXAMER (PROBABLE).
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC.
CC   -!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY M17; ALSO KNOWN AS THE
CC       CYTOSOL AMINOPEPTIDASE FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; X63444; CAA45040.1; -.
DR   EMBL; AC005967; AAD03381.1; -.
DR   PIR; S22399; S22399.
DR   HSSP; P00727; 1BPM.
DR   MEROPS; M17.002; -.
DR   InterPro; IPR000819; Peptidase_M17.
DR   Pfam; PF00883; Peptidase_M17; 1.
DR   PRINTS; PR00481; LAMNOPPTDASE.
DR   PROSITE; PS00631; CYTOSOL_AP; 1.
KW   Hydrolase; Aminopeptidase; Zinc.
FT   METAL       288    288       ZINC (2) (BY SIMILARITY).
FT   METAL       293    293       ZINC (1 AND 2) (BY SIMILARITY).
FT   METAL       313    313       ZINC (2) (BY SIMILARITY).
FT   METAL       373    373       ZINC (1) (BY SIMILARITY).
FT   METAL       375    375       ZINC (1 AND 2) (BY SIMILARITY).
FT   ACT_SITE    300    300       POTENTIAL.
FT   ACT_SITE    377    377       POTENTIAL.
SQ   SEQUENCE   520 AA;  54509 MW;  D3FA9CCCD312AA92 CRC64;


  Query Match             77.1%;  Score 37;  DB 1;  Length 520;
  Best Local Similarity   75.0%;  Pred. No. 34;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 SGSGLRPG 9
             ||:|:|||
Db     349 SGTGMRPG 356


RESULT   5
AMP2_LYCES
ID   AMP2_LYCES     STANDARD;      PRT;   569 AA.
AC   Q42876;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   15-JUL-1999 (Rel. 38, Last annotation update)
DE   CHLOROPLAST AMINOPEPTIDASE 2 PRECURSOR (EC 3.4.11.1) (LEUCINE
DE   AMINOPEPTIDASE) (LAP) (LEUCYL AMINOPEPTIDASE) (PROLINE AMINOPEPTIDASE)
DE   (EC 3.4.11.5) (PROLYL AMINOPEPTIDASE).
GN   LAPA2.
OS   Lycopersicon esculentum (Tomato).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
OC   Asteridae; euasterids I; Solanales; Solanaceae; Solanum.
OX   NCBI_TaxID=4081;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CV. VF36; TISSUE=Pistil;
RX   MEDLINE=95375233; PubMed=7647301;
RA   Milligan S.B., Gasser C.S.;
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RT   "Nature and regulation of pistil-expressed genes in tomato.";
RL   Plant Mol. Biol. 28:691-711(1995).
CC   -!- FUNCTION: PRESUMABLY INVOLVED IN THE PROCESSING AND REGULAR
CC       TURNOVER OF INTRACELLULAR PROTEINS.
CC   -!- CATALYTIC ACTIVITY: RELEASE OF AN N-TERMINAL AMINO ACID, XAA-|-
CC       XBB-, IN WHICH XAA IS PREFERABLY LEU, BUT MAY BE OTHER AMINO ACIDS
CC       INCLUDING PRO ALTHOUGH NOT ARG OR LYS, AND XBB MAY BE PRO.
CC   -!- COFACTOR: BINDS TWO ZINC IONS (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: CHLOROPLAST.
CC   -!- INDUCTION: BY WOUNDING.
CC   -!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY M17; ALSO KNOWN AS THE
CC       CYTOSOL AMINOPEPTIDASE FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; U20594; AAA80499.1; -.
DR   HSSP; P00727; 1BPM.
DR   MEROPS; M17.002; -.
DR   InterPro; IPR000819; Peptidase_M17.
DR   Pfam; PF00883; Peptidase_M17; 1.
DR   PRINTS; PR00481; LAMNOPPTDASE.
DR   PROSITE; PS00631; CYTOSOL_AP; 1.
KW   Transit peptide; Chloroplast; Aminopeptidase; Hydrolase; Zinc.
FT   TRANSIT       1     48       CHLOROPLAST (POTENTIAL).
FT   CHAIN        49    569       CHLOROPLAST AMINOPEPTIDASE 2.
FT   DOMAIN      167    172       POLY-ALA.
FT   METAL       339    339       ZINC (2) (BY SIMILARITY).
FT   METAL       344    344       ZINC (1 AND 2) (BY SIMILARITY).
FT   METAL       364    364       ZINC (2) (BY SIMILARITY).
FT   METAL       424    424       ZINC (1) (BY SIMILARITY).
FT   METAL       426    426       ZINC (1 AND 2) (BY SIMILARITY).
FT   ACT_SITE    351    351       POTENTIAL.
FT   ACT_SITE    428    428       POTENTIAL.
SQ   SEQUENCE   569 AA;  59549 MW;  E8DADAC26A3DC47B CRC64;


  Query Match            77.1%;  Score 37;  DB 1;  Length 569;
  Best Local Similarity  75.0%;  Pred. No. 37;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      2 SGSGLRPG 9
          ||:|:|||
Db    400 SGTGMRPG 407


RESULT   6
AMPL_SOLTU
ID   AMPL_SOLTU     STANDARD;      PRT;   573 AA.
AC   P31427;
DT   01-JUL-1993 (Rel. 26, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   CHLOROPLAST AMINOPEPTIDASE PRECURSOR (EC 3.4.11.1) (LEUCINE
DE   AMINOPEPTIDASE) (LAP) (LEUCYL AMINOPEPTIDASE) (PROLINE AMINOPEPTIDASE)
DE   (EC 3.4.11.5) (PROLYL AMINOPEPTIDASE).
GN   LAP.
OS   Solanum tuberosum (Potato).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
OC   Asteridae; euasterids I; Solanales; Solanaceae; Solanum.
OX   NCBI_TaxID=4113;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CV. DESIREE;
RX   MEDLINE=94339796; PubMed=7765119;
RA   Herbers K., Prat S., Willmitzer L.;
RT   "Functional analysis of a leucine aminopeptidase from Solanum
RT   tuberosum L.";
RL   Planta 194:230-240(1994).
RN   [2]
RP   SEQUENCE OF 19-573 FROM N.A.
RC   STRAIN=CV. DESIREE; TISSUE=Leaf;
RX   MEDLINE=93005746; PubMed=1392612;
RA   Hildmann T., Ebneth M., Pena-Cortes H., Sanchez-Serrano J.J.,
RA   Willmitzer L., Prat S.;
RT   "General roles of abscisic and jasmonic acids in gene activation as a
RT   result of mechanical wounding.";
RL   Plant Cell 4:1157-1170(1992).
CC   -!- FUNCTION: PRESUMABLY INVOLVED IN THE PROCESSING AND REGULAR
CC       TURNOVER OF INTRACELLULAR PROTEINS.
CC   -!- CATALYTIC ACTIVITY: RELEASE OF AN N-TERMINAL AMINO ACID, XAA-|-
CC       XBB-, IN WHICH XAA IS PREFERABLY LEU, BUT MAY BE OTHER AMINO ACIDS
CC       INCLUDING PRO ALTHOUGH NOT ARG OR LYS, AND XBB MAY BE PRO.
CC   -!- COFACTOR: BINDS TWO ZINC IONS (BY SIMILARITY).
CC   -!- SUBUNIT: HOMOHEXAMER (PROBABLE).
CC   -!- SUBCELLULAR LOCATION: CHLOROPLAST (BY SIMILARITY).
CC   -!- TISSUE SPECIFICITY: IN TUBERS AND FLORAL BUDS OF UNTREATED PLANTS.
CC       AFTER ABA TREATMENT OR MECHANICAL WOUNDING IS MOSTLY ACCUMULATED
CC       IN LEAVES, TO A LESSER EXTENT IN STEMS, BUT NOT IN ROOTS.
CC   -!- INDUCTION: BY ABSCISIC ACID (ABA), JASMONIC ACID (JA) AND
CC       WOUNDING.
CC   -!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY M17; ALSO KNOWN AS THE
CC       CYTOSOL AMINOPEPTIDASE FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X77015; CAA54314.1; -.
DR   EMBL; X67845; CAA48038.1; -.
DR   PIR; S24769; S24769.
DR   PIR; PQ0470; PQ0470.
DR   HSSP; P00727; 1LAN.
DR   MEROPS; M17.002; -.
DR   InterPro; IPR000819; Peptidase_M17.
DR   Pfam; PF00883; Peptidase_M17; 1.
DR   PRINTS; PR00481; LAMNOPPTDASE.
DR   PROSITE; PS00631; CYTOSOL_AP; 1.
KW   Transit peptide; Chloroplast; Aminopeptidase; Hydrolase; Zinc.
FT   TRANSIT       1     53       CHLOROPLAST (POTENTIAL).
FT   CHAIN        54    573       CHLOROPLAST AMINOPEPTIDASE.
FT   DOMAIN      169    174       POLY-ALA.
FT   METAL       342    342       ZINC (2) (BY SIMILARITY).
FT   METAL       347    347       ZINC (1 AND 2) (BY SIMILARITY).
FT   METAL       367    367       ZINC (2) (BY SIMILARITY).
FT   METAL       427    427       ZINC (1) (BY SIMILARITY).
FT   METAL       429    429       ZINC (1 AND 2) (BY SIMILARITY).
FT   ACT_SITE    354    354       POTENTIAL.
FT   ACT_SITE    431    431       POTENTIAL.
SQ   SEQUENCE   573 AA;  60122 MW;  3152145A4A7FB291 CRC64;


  Query Match            77.1%;  Score 37;  DB 1;  Length 573;
  Best Local Similarity  75.0%;  Pred. No. 37;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      2 SGSGLRPG 9
          ||:|:|||
Db    403 SGAGMRPG 410


RESULT   7
SOD1_ORYSA
ID   SOD1_ORYSA     STANDARD;      PRT;   151 AA.
AC   P28756;
DT   01-DEC-1992 (Rel. 24, Created)
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DT   01-DEC-1992 (Rel. 24, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   SUPEROXIDE DISMUTASE [CU-ZN] 1 (EC 1.15.1.1).
GN   SODCC1 OR SODCC.1.
OS   Oryza sativa (Rice).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
OC   Ehrhartoideae; Oryzeae; Oryza.
OX   NCBI_TaxID=4530;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Seed;
RX   MEDLINE=92322961; PubMed=1623183;
RA   Sakamoto A., Ohsuga H., Tanaka K.;
RT   "Nucleotide sequences of two cDNA clones encoding different Cu/Zn-
RT   superoxide dismutases expressed in developing rice seed (Oryza sativa
RT   L.).";
RL   Plant Mol. Biol. 19:323-327(1992).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CV. TAINONG 67; TISSUE=Shoot;
RA   Pan S.M., Huang G.B.;
RL   Submitted (XXX-1994) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE OF 1-90 FROM N.A.
RX   MEDLINE=95241628; PubMed=7724677;
RA   Sakamoto A., Okumura T., Kaminaka H., Tanaka K.;
RT   "Molecular cloning of the gene (SodCc1) that encodes a cytosolic
RT   copper/zinc-superoxide dismutase from rice (Oryza sativa L.).";
RL   Plant Physiol. 107:651-652(1995).
CC   -!- FUNCTION: DESTROYS RADICALS WHICH ARE NORMALLY PRODUCED WITHIN THE
CC       CELLS AND ARE TOXIC TO BIOLOGICAL SYSTEMS.
CC   -!- CATALYTIC ACTIVITY: 2 PEROXIDE RADICAL + 2 H(+) = O(2) + H(2)O(2).
CC   -!- SUBUNIT: HOMODIMER.
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC.
CC   -!- SIMILARITY: BELONGS TO THE CU-ZN SUPEROXIDE DISMUTASE FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; D00999; BAA00799.1; -.
DR   EMBL; L36320; AAA33917.1; -.
DR   EMBL; L19435; AAC14464.1; -.
DR   PIR; S22508; S22508.
DR   HSSP; P07505; 1SRD.
DR   Mendel; 302; ORYsa;SodCc;1.
DR   InterPro; IPR001424; SOD_CU_ZN.
DR   Pfam; PF00080; sodcu; 1.
DR   PRINTS; PR00068; CUZNDISMTASE.
DR   ProDom; PD000469; SOD_CU_ZN; 1.
DR   PROSITE; PS00087; SOD_CU_ZN_1; 1.
DR   PROSITE; PS00332; SOD_CU_ZN_2; 1.
KW   Oxidoreductase; Copper; Zinc; Multigene family.
FT   INIT_MET      0      0       BY SIMILARITY.
FT   METAL        44     44       COPPER (BY SIMILARITY).
FT   METAL        46     46       COPPER (BY SIMILARITY).
FT   METAL        61     61       COPPER AND ZINC (BY SIMILARITY).
FT   METAL        69     69       ZINC (BY SIMILARITY).
FT   METAL        78     78       ZINC (BY SIMILARITY).
FT   METAL        81     81       ZINC (BY SIMILARITY).
FT   METAL       118    118       COPPER (BY SIMILARITY).
FT   DISULFID     55    144       BY SIMILARITY.
FT   CONFLICT     56     56       M -> I (IN REF. 2).
SQ   SEQUENCE   151 AA;  15120 MW;  CF5FD97ACD4E7998 CRC64;


  Query Match             75.0%;  Score 36;  DB 1;  Length 151;
  Best Local Similarity   77.8%;  Pred. No. 15;

  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           || |||:||
Db      31 GSVSGLKPG 39


RESULT   8
SOD2_ORYSA
ID   SOD2_ORYSA     STANDARD;      PRT;   151 AA.
AC   P28757;
DT   01-DEC-1992 (Rel. 24, Created)
DT   01-DEC-1992 (Rel. 24, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   SUPEROXIDE DISMUTASE [CU-ZN] 2 (EC 1.15.1.1).
GN   SODCC2 OR SODCC.2.
OS   Oryza sativa (Rice).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
OC   Ehrhartoideae; Oryzeae; Oryza.
OX   NCBI_TaxID=4530;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Seed;
RX   MEDLINE=92322961; PubMed=1623183;
RA   Sakamoto A., Ohsuga H., Tanaka K.;
RT   "Nucleotide sequences of two cDNA clones encoding different Cu/Zn-
RT   superoxide dismutases expressed in developing rice seed (Oryza sativa
RT   L.).";
RL   Plant Mol. Biol. 19:323-327(1992).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=92233942; PubMed=1568478;
RA   Sakamoto A., Okumura T., Ohsuga H., Tanaka K.;
RT   "Genomic structure of the gene for copper/zinc-superoxide dismutase
RT   in rice.";
RL   FEBS Lett. 301:185-189(1992).
CC   -!- FUNCTION: DESTROYS RADICALS WHICH ARE NORMALLY PRODUCED WITHIN THE
CC       CELLS AND ARE TOXIC TO BIOLOGICAL SYSTEMS.
CC   -!- CATALYTIC ACTIVITY: 2 PEROXIDE RADICAL + 2 H(+) = O(2) + H(2)O(2).
CC   -!- SUBUNIT: HOMODIMER.
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC.
CC   -!- SIMILARITY: BELONGS TO THE CU-ZN SUPEROXIDE DISMUTASE FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; D01000; BAA00800.1; -.
DR   EMBL; L19434; AAC14465.1; -.
DR   PIR; S26354; S26354.
DR   HSSP; P07505; 1SRD.
DR   Mendel; 303; ORYsa;SodCc;2.
DR   InterPro; IPR001424; SOD_CU_ZN.
DR   Pfam; PF00080; sodcu; 1.
DR   PRINTS; PR00068; CUZNDISMTASE.
DR   ProDom; PD000469; SOD_CU_ZN; 1.
DR   PROSITE; PS00087; SOD_CU_ZN_1; 1.
DR   PROSITE; PS00332; SOD_CU_ZN_2; 1.
KW   Oxidoreductase; Copper; Zinc; Multigene family.
FT   INIT_MET      0      0       BY SIMILARITY.
FT   METAL        44     44       COPPER (BY SIMILARITY).
FT   METAL        46     46       COPPER (BY SIMILARITY).
FT   METAL        61     61       COPPER AND ZINC (BY SIMILARITY).
FT   METAL        69     69       ZINC (BY SIMILARITY).
FT   METAL        78     78       ZINC (BY SIMILARITY).
FT   METAL        81     81       ZINC (BY SIMILARITY).
FT   METAL       118    118       COPPER (BY SIMILARITY).
FT   DISULFID     55    144       BY SIMILARITY.
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SQ   SEQUENCE   151 AA;  14949 MW;  D0FE5B57BFAF3914 CRC64;


  Query Match             75.0%;  Score 36;  DB 1;  Length 151;
  Best Local Similarity   77.8%;  Pred. No. 15;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 GSGSGLRPG 9
          || |||:||
Db     31 GSVSGLKPG 39


RESULT   9
SOD4_MAIZE
ID   SOD4_MAIZE     STANDARD;      PRT;   151 AA.
AC   P23345;
DT   01-NOV-1991 (Rel. 20, Created)
DT   01-NOV-1991 (Rel. 20, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   SUPEROXIDE DISMUTASE [CU-ZN] 4A (EC 1.15.1.1).
GN   SODCC.3 OR SOD4A.
OS   Zea mays (Maize).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACC clade;
OC   Panicoideae; Andropogoneae; Zea.
OX   NCBI_TaxID=4577;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90136495; PubMed=2482436;
RA   Cannon R.E., Scandalios J.G.;
RT   "Two cDNAs encode two nearly identical Cu/Zn superoxide dismutase
RT   proteins in maize.";
RL   Mol. Gen. Genet. 219:1-8(1989).
CC   -!- FUNCTION: DESTROYS RADICALS WHICH ARE NORMALLY PRODUCED WITHIN THE
CC       CELLS AND ARE TOXIC TO BIOLOGICAL SYSTEMS.
CC   -!- CATALYTIC ACTIVITY: 2 PEROXIDE RADICAL + 2 H(+) = O(2) + H(2)O(2).
CC   -!- SUBUNIT: HOMODIMER.
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC.
CC   -!- SIMILARITY: BELONGS TO THE CU-ZN SUPEROXIDE DISMUTASE FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X17564; -; NOT_ANNOTATED_CDS.
DR   PIR; S07007; S07007.
DR   HSSP; P07505; 1SRD.
DR   MaizeDB; 47586; -.
DR   Mendel; 299; ZEAma;SodCc;3.
DR   InterPro; IPR001424; SOD_CU_ZN.
DR   Pfam; PF00080; sodcu; 1.
DR   PRINTS; PR00068; CUZNDISMTASE.
DR   ProDom; PD000469; SOD_CU_ZN; 1.
DR   PROSITE; PS00087; SOD_CU_ZN_1; 1.
DR   PROSITE; PS00332; SOD_CU_ZN_2; 1.
KW   Oxidoreductase; Copper; Zinc; Multigene family.
FT   INIT_MET      0      0
FT   METAL        44     44       COPPER (BY SIMILARITY).
FT   METAL        46     46       COPPER (BY SIMILARITY).
FT   METAL        61     61       COPPER AND ZINC (BY SIMILARITY).
FT   METAL        69     69       ZINC (BY SIMILARITY).
FT   METAL        78     78       ZINC (BY SIMILARITY).
FT   METAL        81     81       ZINC (BY SIMILARITY).
FT   METAL       118    118       COPPER (BY SIMILARITY).
FT   DISULFID     55    144       BY SIMILARITY.
SQ   SEQUENCE   151 AA;  14983 MW;  9C6226F86C919E58 CRC64;

  Query Match             75.0%;  Score 36;  DB 1;  Length 151;
  Best Local Similarity   77.8%;  Pred. No. 15;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 GSGSGLRPG 9
          || |||:||
Db     31 GSVSGLKPG 39


RESULT  10
SOD5_MAIZE
ID   SOD5_MAIZE     STANDARD;      PRT;   151 AA.
AC   P23346;
DT   01-NOV-1991 (Rel. 20, Created)
DT   01-NOV-1991 (Rel. 20, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   SUPEROXIDE DISMUTASE [CU-ZN] 4AP (EC 1.15.1.1).
GN   SODCC.2 OR SOD4AP.
OS   Zea mays (Maize).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACC clade;
OC   Panicoideae; Andropogoneae; Zea.
OX   NCBI_TaxID=4577;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90136495; PubMed=2482436;
RA   Cannon R.E., Scandalios J.G.;
RT   "Two cDNAs encode two nearly identical Cu/Zn superoxide dismutase
RT   proteins in maize.";
RL   Mol. Gen. Genet. 219:1-8(1989).
CC   -!- FUNCTION: DESTROYS RADICALS WHICH ARE NORMALLY PRODUCED WITHIN THE
CC       CELLS AND ARE TOXIC TO BIOLOGICAL SYSTEMS.
CC   -!- CATALYTIC ACTIVITY: 2 PEROXIDE RADICAL + 2 H(+) = O(2) + H(2)O(2).
CC   -!- SUBUNIT: HOMODIMER.
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC.
CC   -!- SIMILARITY: BELONGS TO THE CU-ZN SUPEROXIDE DISMUTASE FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X17565; CAB57992.1; ALT_SEQ.
DR   PIR; S07008; S07008.
DR   HSSP; P07505; 1SRD.
DR   MaizeDB; 47586; -.
DR   Mendel; 298; ZEAma;SodCc;2.
DR   InterPro; IPR001424; SOD_CU_ZN.
DR   Pfam; PF00080; sodcu; 1.
DR   PRINTS; PR00068; CUZNDISMTASE.
DR   ProDom; PD000469; SOD_CU_ZN; 1.
DR   PROSITE; PS00087; SOD_CU_ZN_1; 1.
DR   PROSITE; PS00332; SOD_CU_ZN_2; 1.
KW   Oxidoreductase; Copper; Zinc; Multigene family.
FT   INIT_MET      0      0
FT   METAL        44     44       COPPER (BY SIMILARITY).
FT   METAL        46     46       COPPER (BY SIMILARITY).
FT   METAL        61     61       COPPER AND ZINC (BY SIMILARITY).
FT   METAL        69     69       ZINC (BY SIMILARITY).
FT   METAL        78     78       ZINC (BY SIMILARITY).
FT   METAL        81     81       ZINC (BY SIMILARITY).
FT   METAL       118    118       COPPER (BY SIMILARITY).
FT   DISULFID     55    144       BY SIMILARITY.
SQ   SEQUENCE   151 AA;  14939 MW;  9C7E572A6C1AEF1D CRC64;


  Query Match             75.0%;  Score 36;  DB 1;  Length 151;
  Best Local Similarity   77.8%;  Pred. No. 15;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 GSGSGLRPG 9
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          || |||:||
Db     31 GSVSGLKPG 39


RESULT  11
SODC_BRAOC
ID   SODC_BRAOC     STANDARD;      PRT;   151 AA.
AC   P09678;
DT   01-MAR-1989 (Rel. 10, Created)
DT   01-MAR-1989 (Rel. 10, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   SUPEROXIDE DISMUTASE [CU-ZN] (EC 1.15.1.1).
GN   SODCC.
OS   Brassica oleracea var. capitata (Cabbage).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC   eurosids II; Brassicales; Brassicaceae; Brassica.
OX   NCBI_TaxID=3716;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=87076036; PubMed=3790249;
RA   Steffens G.J., Michelson A.M., Otting F., Puget K., Strassburger W.,
RA   Flohe L.;
RT   "Primary structure of Cu-Zn superoxide dismutase of Brassica oleracea
RT   proves homology with corresponding enzymes of animals, fungi and
RT   prokaryotes.";
RL   Biol. Chem. Hoppe-Seyler 367:1007-1016(1986).
CC   -!- FUNCTION: DESTROYS RADICALS WHICH ARE NORMALLY PRODUCED WITHIN THE
CC       CELLS AND ARE TOXIC TO BIOLOGICAL SYSTEMS.
CC   -!- CATALYTIC ACTIVITY: 2 PEROXIDE RADICAL + 2 H(+) = O(2) + H(2)O(2).
CC   -!- SUBUNIT: HOMODIMER.
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC.
CC   -!- SIMILARITY: BELONGS TO THE CU-ZN SUPEROXIDE DISMUTASE FAMILY.
DR   PIR; A25569; DSRPZC.
DR   HSSP; P07505; 1SRD.
DR   InterPro; IPR001424; SOD_CU_ZN.
DR   Pfam; PF00080; sodcu; 1.
DR   PRINTS; PR00068; CUZNDISMTASE.
DR   ProDom; PD000469; SOD_CU_ZN; 1.
DR   PROSITE; PS00087; SOD_CU_ZN_1; 1.
DR   PROSITE; PS00332; SOD_CU_ZN_2; 1.
KW   Oxidoreductase; Copper; Zinc.
FT   METAL        44     44       COPPER.
FT   METAL        46     46       COPPER.
FT   METAL        61     61       COPPER AND ZINC.
FT   METAL        69     69       ZINC.
FT   METAL        78     78       ZINC.
FT   METAL        81     81       ZINC.
FT   METAL       118    118       COPPER.
FT   DISULFID     55    144
SQ   SEQUENCE   151 AA;  15041 MW;  FF1697E98D195859 CRC64;


  Query Match             75.0%;  Score 36;  DB 1;  Length 151;
  Best Local Similarity   77.8%;  Pred. No. 15;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           |: ||||||
Db      31 GTVSGLRPG 39


RESULT  12
SOD1_MESCR
ID   SOD1_MESCR     STANDARD;      PRT;   152 AA.
AC   P93258;
DT   15-JUL-1998 (Rel. 36, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   SUPEROXIDE DISMUTASE [CU-ZN] 1 (EC 1.15.1.1).
GN   SODCC.1 OR SOD1 OR SOD.
OS   Mesembryanthemum crystallinum (Common ice plant).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
OC   Caryophyllidae; Caryophyllales; Aizoaceae; Mesembryanthemum.
OX   NCBI_TaxID=3544;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Michalowski C.B., Quigley-Landreau F., Bohnert H.J.;
RL   Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: DESTROYS RADICALS WHICH ARE NORMALLY PRODUCED WITHIN THE
CC       CELLS AND ARE TOXIC TO BIOLOGICAL SYSTEMS.
CC   -!- CATALYTIC ACTIVITY: 2 PEROXIDE RADICAL + 2 H(+) = O(2) + H(2)O(2).
CC   -!- SUBUNIT: HOMODIMER (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC.
CC   -!- SIMILARITY: BELONGS TO THE CU-ZN SUPEROXIDE DISMUTASE FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; U80069; AAB40394.1; -.
DR   HSSP; P07505; 1SRD.
DR   Mendel; 9129; MEScr;SodCc;1.
DR   InterPro; IPR001424; SOD_CU_ZN.
DR   Pfam; PF00080; sodcu; 1.
DR   PRINTS; PR00068; CUZNDISMTASE.
DR   ProDom; PD000469; SOD_CU_ZN; 1.
DR   PROSITE; PS00087; SOD_CU_ZN_1; 1.
DR   PROSITE; PS00332; SOD_CU_ZN_2; 1.
KW   Oxidoreductase; Copper; Zinc; Multigene family.
FT   METAL        45     45       COPPER (BY SIMILARITY).
FT   METAL        47     47       COPPER (BY SIMILARITY).
FT   METAL        62     62       COPPER AND ZINC (BY SIMILARITY).
FT   METAL        70     70       ZINC (BY SIMILARITY).
FT   METAL        79     79       ZINC (BY SIMILARITY).
FT   METAL        82     82       ZINC (BY SIMILARITY).
FT   METAL       119    119       COPPER (BY SIMILARITY).
FT   DISULFID     56    145       BY SIMILARITY.
SQ   SEQUENCE   152 AA;  15173 MW;  44771D3714ADB19C CRC64;


  Query Match             75.0%;  Score 36;  DB 1;  Length 152;
  Best Local Similarity   77.8%;  Pred. No. 15;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           |: ||||||
Db      32 GNVSGLRPG 40


RESULT  13
ALAT_YEAST
ID   ALAT_YEAST     STANDARD;      PRT;   507 AA.
AC   P52892;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   01-NOV-1997 (Rel. 35, Last annotation update)
DE   PUTATIVE ALANINE AMINOTRANSFERASE (EC 2.6.1.2) (GLUTAMIC--PYRUVIC
DE   TRANSAMINASE) (GPT) (GLUTAMIC--ALANINE TRANSAMINASE).
GN   YDR111C OR YD9727.07C.
OS   Saccharomyces cerevisiae (Baker's yeast).
OC   Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
OC   Saccharomycetales; Saccharomycetaceae; Saccharomyces.
OX   NCBI_TaxID=4932;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=S288C / AB972;
RA   Murphy L., Shore L., Harris D., Barrell B.G., Rajandream M.A.,
RA   Walsh S.V.;
RL   Submitted (MAR-1995) to the EMBL/GenBank/DDBJ databases.
CC   -!- CATALYTIC ACTIVITY: L-ALANINE + 2-OXOGLUTARATE = PYRUVATE +
```

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CC       L-GLUTAMATE.
CC   -!- COFACTOR: PYRIDOXAL PHOSPHATE.
CC   -!- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL).
CC   -!- SIMILARITY: TO OTHER SPECIES ALANINE AMINOTRANSFERASE.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; Z48758; CAA88665.1; -.
DR   SGD; S0002518; YDR111C.
KW   Hypothetical protein; Transferase; Aminotransferase;
KW   Pyridoxal phosphate.
FT   BINDING     327    327       PYRIDOXAL PHOSPHATE (BY SIMILARITY).
SQ   SEQUENCE   507 AA;  56769 MW;  CB4DCD137CF26085 CRC64;


  Query Match             75.0%;  Score 36;  DB 1;  Length 507;
  Best Local Similarity   77.8%;  Pred. No. 49;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           ||| | |||
Db     467 GSGFGQRPG 475


RESULT  14
CSX1_SCHPO
ID   CSX1_SCHPO     STANDARD;      PRT;   632 AA.
AC   O13759; Q09331; Q09335;
DT   15-JUL-1998 (Rel. 36, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   RNA-BINDING POST-TRANSCRIPTIONAL REGULATOR CSX1.
GN   CSX1 OR SPAC17A2.09C.
OS   Schizosaccharomyces pombe (Fission yeast).
OC   Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
OC   Schizosaccharomycetales; Schizosaccharomycetaceae;
OC   Schizosaccharomyces.
OX   NCBI_TaxID=4896;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=972;
RA   Oliver K., Harris D., Barrell B.G., Rajandream M.A., Wood V.;
RL   Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE OF 161-393 FROM N.A.
RX   MEDLINE=96354912; PubMed=8769419;
RA   Saitoh S., Takahashi K., Nabeshima K., Yamashita Y., Nakaseko Y.,
RA   Hirata A., Yanagida M.;
RT   "Aberrant mitosis in fission yeast mutants defective in fatty acid
RT   synthetase and acetyl CoA carboxylase.";
RL   J. Cell Biol. 134:949-961(1996).
CC   -!- SIMILARITY: CONTAINS 3 RNA RECOGNITION MOTIFS (RRM).
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; Z99292; CAB16569.1; -.
DR   EMBL; D83417; BAA11918.1; -.
DR   EMBL; D83418; BAA11919.1; -.
DR   HSSP; P19339; 2SXL.
DR   InterPro; IPR000504; RRM.
DR   Pfam; PF00076; rrm; 3.
DR   SMART; SM00360; RRM; 3.
DR   PROSITE; PS50102; RRM; 3.
DR   PROSITE; PS00030; RRM_RNP_1; FALSE_NEG.
KW   RNA-binding; Repeat.
FT   DOMAIN       85    167       RNA-BINDING (RRM) 1.
FT   DOMAIN      182    261       RNA-BINDING (RRM) 2.
FT   DOMAIN      297    369       RNA-BINDING (RRM) 3.
FT   CONFLICT    265    265       A -> G (IN REF. 2).
FT   CONFLICT    270    270       D -> E (IN REF. 2).
FT   CONFLICT    273    273       L -> R (IN REF. 2).
FT   CONFLICT    383    393       VSDEGFDRTLS -> FQMRVRKNSFR (IN REF. 2).
SQ   SEQUENCE   632 AA;  67870 MW;  3852A0BDBCBD0C85 CRC64;


  Query Match             75.0%;  Score 36;  DB 1;  Length 632;
  Best Local Similarity   87.5%;  Pred. No. 60;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRP 8
           |||||| |
Db     471 GSGSGLTP 478


RESULT  15
CD22_MOUSE
ID   CD22_MOUSE     STANDARD;      PRT;   862 AA.
AC   P35329;
DT   01-FEB-1994 (Rel. 28, Created)
DT   01-FEB-1994 (Rel. 28, Last sequence update)
DT   20-AUG-2001 (Rel. 40, Last annotation update)
DE   B-CELL RECEPTOR CD22 PRECURSOR (LEU-14) (B-LYMPHOCYTE CELL ADHESION
DE   MOLECULE) (BL-CAM).
GN   CD22 OR LYB-8.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=DBA/2J, AND BALB/C; TISSUE=Liver;
RX   MEDLINE=93315834; PubMed=8100843;
RA   Law C.-L., Torres R.M., Sundberg H.A., Parkhouse R.M.,
RA   Brannan C.I., Copeland N.G., Jenkins N.A., Clark E.A.;
RT   "Organization of the murine Cd22 locus. Mapping to chromosome 7 and
RT   characterization of two alleles.";
RL   J. Immunol. 151:175-187(1993).
CC   -!- FUNCTION: MEDIATES B-CELL B-CELL INTERACTIONS. MAY BE INVOLVED IN
CC       THE LOCALIZATION OF B-CELLS IN LYMPHOID TISSUES. BINDS SIALYLATED
CC       GLYCOPROTEINS; ONE OF WHICH IS CD45.
CC   -!- SUBUNIT: HETERODIMER OF AN ALPHA AND A BETA CHAIN.
CC   -!- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN.
CC   -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; CD22-ALPHA AND CD22-BETA (SHOWN
CC       HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.
CC   -!- TISSUE SPECIFICITY: B-LYMPHOCYTES.
CC   -!- SIMILARITY: BELONGS TO THE IMMUNOGLOBULIN SUPERFAMILY. CONTAINS
CC       4 C2-LIKE AND ONE V-LIKE DOMAINS.
CC   -!- SIMILARITY: TO MYELIN-ASSOCIATED GLYCOPROTEIN.
CC   ---------------------------------------------------------------------
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CC   use by non-profit institutions as long as its content is in no way
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; L16928; AAA02562.1; -.
DR   MGD; MGI:88322; Cd22.
DR   InterPro; IPR003006; Ig_MHC.
DR   InterPro; IPR003598; Ig_c2.
DR   InterPro; IPR003600; Ig_like.
DR   Pfam; PF00047; ig; 6.
DR   SMART; SM00408; IGc2; 4.
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DR   SMART; SM00410; IG_like; 1.
KW   Glycoprotein; Cell adhesion; Transmembrane; Signal; B-cell;
KW   Immunoglobulin domain; Alternative splicing.
FT   SIGNAL        1     21       POTENTIAL.
FT   CHAIN        22    862       B-CELL RECEPTOR CD22.
FT   DOMAIN       22    702       EXTRACELLULAR (POTENTIAL).
FT   TRANSMEM    703    721       POTENTIAL.
FT   DOMAIN      722    862       CYTOPLASMIC (POTENTIAL).
FT   DOMAIN       22    142       IG-LIKE V-TYPE DOMAIN.
FT   DOMAIN      158    235       IG-LIKE C2-TYPE DOMAIN 1.
FT   DOMAIN      265    331       IG-LIKE C2-TYPE DOMAIN 2.
FT   DOMAIN      361    418       IG-LIKE C2-TYPE DOMAIN 3.
FT   DOMAIN      450    506       IG-LIKE C2-TYPE DOMAIN 4.
FT   DOMAIN      537    593       IG-LIKE C2-TYPE DOMAIN 5.
FT   DOMAIN      624    681       IG-LIKE C2-TYPE DOMAIN 6.
FT   DISULFID     41    171       BY SIMILARITY.
FT   DISULFID     46    106       BY SIMILARITY.
FT   DISULFID    165    229       BY SIMILARITY.
FT   DISULFID    272    324       BY SIMILARITY.
FT   DISULFID    368    411       BY SIMILARITY.
FT   DISULFID    457    499       BY SIMILARITY.
FT   DISULFID    544    586       BY SIMILARITY.
FT   DISULFID    631    674       BY SIMILARITY.
FT   CARBOHYD    105    105       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD    116    116       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD    139    139       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD    168    168       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD    265    265       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD    275    275       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD    378    378       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD    408    408       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD    460    460       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD    561    561       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD    589    589       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   VARIANT      15     15       A -> V (IN BALB/C).
FT   VARIANT      19     19       Q -> R (IN BALB/C).
FT   VARIANT      76     76       K -> T (IN BALB/C).
FT   VARIANT      82     86       NKAEP -> NATKTEKDPES (IN BALB/C).
FT   VARIANT      90     91       PP -> LS (IN BALB/C).
FT   VARIANT      94     94       R -> G (IN BALB/C).
FT   VARIANT     102    102       S -> R (IN BALB/C).
FT   VARIANT     173    173       E -> G (IN BALB/C).
FT   VARIANT     179    179       Q -> K (IN BALB/C).
FT   VARIANT     186    186       K -> E (IN BALB/C).
FT   VARIANT     190    190       V -> I (IN BALB/C).
FT   VARIANT     192    192       P -> S (IN BALB/C).
FT   VARIANT     236    236       E -> K (IN BALB/C).
FT   VARIANT     241    241       R -> C (IN BALB/C).
FT   VARIANT     244    244       R -> H (IN BALB/C).
FT   VARIANT     616    616       S -> I (IN BALB/C).
FT   VARIANT     714    714       C -> F (IN BALB/C).
FT   VARIANT     787    787       M -> T (IN BALB/C).
FT   VARIANT     808    808       S -> T (IN BALB/C).
SQ   SEQUENCE   862 AA;  96582 MW;  A7662D6E87038E83 CRC64;


  Query Match           75.0%;  Score 36;  DB 1;  Length 862;
  Best Local Similarity  77.8%;  Pred. No. 81;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           |||| |:||
Db     475 GSGSVLKPG 483


Search completed: March 13, 2002, 09:05:43
Job time: 917 sec
```

GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 09:04:18 ; Search time 161.29 Seconds
(without alignments)
8.162 Million cell updates/sec

Title: US-09-462-089-4
Perfect score: 48
Sequence: 1 GSGSGLRPG 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 473505 seqs, 146272329 residues

Total number of hits satisfying chosen parameters: 473505

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_17:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	42	87.5	395	10	Q9SNB6	Q9snb6 arabidopsis
2	42	87.5	512	10	Q9LTH6	Q9lth6 arabidopsis
3	40	83.3	1638	5	O45853	O45853 caenorhabdi
4	40	83.3	7463	2	Q9Z4X6	Q9z4x6 streptomyce
5	39	81.2	195	2	Q52719	Q52719 rhodobacter
6	39	81.2	603	2	Q9RTX0	Q9rtx0 deinococcus
7	38	79.2	86	12	Q66036	Q66036 canine herp
8	38	79.2	775	2	Q9F342	Q9f342 streptomyce
9	38	79.2	849	5	O15984	O15984 bombyx mori
10	38	79.2	1216	11	Q9Z0Y7	Q9z0y7 mus musculu
11	38	79.2	1257	4	O14654	O14654 homo sapien
12	37	77.1	96	10	Q9LJ15	Q9lj15 oryza sativ
13	37	77.1	258	4	Q9UKY7	Q9uky7 homo sapien
14	37	77.1	295	10	Q43034	Q43034 petroselinu
15	37	77.1	310	12	Q88198	Q88198 sugarcane m
16	37	77.1	310	13	Q98T69	Q98t69 heliomaster
17	37	77.1	310	13	Q98T68	Q98t68 hylocharis
18	37	77.1	313	12	Q88194	Q88194 sugarcane m
19	37	77.1	313	12	Q88195	Q88195 sugarcane m
20	37	77.1	313	12	Q88197	Q88197 sugarcane m
21	37	77.1	313	12	Q88199	Q88199 sugarcane m
22	37	77.1	505	10	O65558	O65558 arabidopsis
23	37	77.1	515	12	Q9YJX3	Q9yjx3 sugarcane m
24	37	77.1	515	12	Q9YJX2	Q9yjx2 sugarcane m
25	37	77.1	515	12	Q9YJX1	Q9yjx1 sugarcane m
26	37	77.1	525	10	O65557	O65557 arabidopsis
27	37	77.1	1089	11	Q99MR9	Q99mr9 mus musculu
28	37	77.1	4833	11	Q9QYX6	Q9qyx6 mus musculu
29	37	77.1	4880	11	Q9JLT1	Q9jlt1 rattus norv
30	37	77.1	5038	11	Q9QYX7	Q9qyx7 mus musculu
31	37	77.1	5085	11	Q9JKS6	Q9jks6 rattus norv
32	36	75.0	97	10	Q9XES6	Q9xes6 trifolium s
33	36	75.0	111	2	Q9FBX9	Q9fbx9 streptomyce
34	36	75.0	124	10	P93800	P93800 zea mays (m
35	36	75.0	152	10	P93801	P93801 zea mays (m
36	36	75.0	184	2	Q9L235	Q9l235 streptomyce
37	36	75.0	266	10	O49712	O49712 arabidopsis
38	36	75.0	326	2	P72595	P72595 synechocyst
39	36	75.0	368	4	Q9BTM7	Q9btm7 homo sapien
40	36	75.0	373	12	Q69342	Q69342 pseudorabie
41	36	75.0	373	12	Q9QQM8	Q9qqm8 pseudorabie
42	36	75.0	405	10	Q9SF30	Q9sf30 arabidopsis
43	36	75.0	417	5	Q9V4V1	Q9v4v1 drosophila
44	36	75.0	481	4	Q9NW07	Q9nw07 homo sapien
45	36	75.0	524	2	Q9AF05	Q9af05 frankia sp.

ALIGNMENTS

RESULT 1
Q9SNB6
ID Q9SNB6 PRELIMINARY; PRT; 395 AA.
AC Q9SNB6;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE HYPOTHETICAL 43.2 KDA PROTEIN.
GN F12A12.140.
OS Arabidopsis thaliana (Mouse-ear cress).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC eurosids II; Brassicales; Brassicaceae; Arabidopsis.
OX NCBI_TaxID=3702;
RN [1]
RP SEQUENCE FROM N.A.
RA Choisne N., Robert C., Brottier P., Wincker P., Cattolico L.,
RA Artiguenave F., Saurin W., Weissenbach J., Mewes H.W., Lemcke K.,
RA Mayer K.F.X., Quetier F., Salanoubat M.;
RL Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
RN [2]
RP SEQUENCE FROM N.A.
RA EU Arabidopsis sequencing project;
RL Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.
CC -!- SIMILARITY: CONTAINS A RING-TYPE ZINC FINGER.
DR EMBL; AL133314; CAB62332.1; -.
DR InterPro; IPR001841; Znf_ring.
DR Pfam; PF00097; zf-C3HC4; 1.
DR SMART; SM00184; RING; 1.
KW Hypothetical protein; Zinc-finger.
SQ SEQUENCE 395 AA; 43151 MW; 1AD9BAE031C7ABA1 CRC64;

Query Match 87.5%; Score 42; DB 10; Length 395;
Best Local Similarity 100.0%; Pred. No. 17;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSGSGLRP 8
||||||||
Db 145 GSGSGLRP 152

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RESULT   2
Q9LTH6
ID   Q9LTH6      PRELIMINARY;      PRT;   512 AA.
AC   Q9LTH6;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   EMB|CAB62332.1.
OS   Arabidopsis thaliana (Mouse-ear cress).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC   eurosids II; Brassicales; Brassicaceae; Arabidopsis.
OX   NCBI_TaxID=3702;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=COLUMBIA;
RA   Kaneko T., Katoh T., Asamizu E., Sato S., Nakamura Y., Kotani H.,
RA   Tabata S.;
RT   "Structural analysis of Arabidopsis thaliana chromosome 5. XI.";
RL   Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases.
CC   -!- SIMILARITY: CONTAINS A RING-TYPE ZINC FINGER.
DR   EMBL; AB025604; BAA97489.1; -.
DR   InterPro; IPR001952; Alk_phosphtse.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF00097; zf-C3HC4; 1.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS00123; ALKALINE_PHOSPHATASE; UNKNOWN_1.
KW   Zinc-finger.
SQ   SEQUENCE   512 AA;  56047 MW;  5A6B5C9CAB4AD5F6 CRC64;


  Query Match             87.5%;  Score 42;  DB 10;  Length 512;
  Best Local Similarity   100.0%;  Pred. No. 22;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRP 8
           ||||||||
Db     234 GSGSGLRP 241


RESULT   3
O45853
ID   O45853      PRELIMINARY;      PRT;  1638 AA.
AC   O45853;
DT   01-JUN-1998 (TrEMBLrel. 06, Created)
DT   01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   T27C5.9 PROTEIN.
GN   T27C5.9.
OS   Caenorhabditis elegans.
OC   Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
OC   Rhabditidae; Peloderinae; Caenorhabditis.
OX   NCBI_TaxID=6239;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Cummings P.;
RL   Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=94150718; PubMed=7906398;
RA   Wilson R., Ainscough R., Anderson K., Baynes C., Berks M.,
RA   Bonfield J., Burton J., Connell M., Copsey T., Cooper J., Coulson A.,
RA   Craxton M., Dear S., Du Z., Durbin R., Favello A., Fulton L.,
RA   Gardner A., Green P., Hawkins T., Hillier L., Jier M., Johnston L.,
RA   Jones M., Kershaw J., Kirsten J., Laister N., Latreille P.,
RA   Lightning J., Lloyd C., Mcmurray A., Mortimore B., O'Callaghan M.,
RA   Parsons J., Percy C., Rifken L., Roopra A., Saunders D., Shownkeen R.,
RA   Smaldon N., Smith A., Sonnhammer E., Staden R., Sulston J.,
RA   Thierry-Mieg J., Thomas K., Vaudin M., Vaughan K., Waterston R.,
RA   Watson A., Weinstock L., Wilkinson-Sproat J., Wohldman P.;
RT   "2.2 Mb of contiguous nucleotide sequence from chromosome III of C.
RT   elegans.";
RL   Nature 368:32-38(1994).
CC   -!- SIMILARITY: TO RNA-DIRECTED DNA POLYMERASE (REVERSE
CC       TRANSCRIPTASE).
DR   EMBL; Z82058; CAB04870.1; -.
DR   InterPro; IPR000477; RVTse.
DR   InterPro; IPR003653; SUMO_protease.
DR   InterPro; IPR000822; Znf-C2H2.
DR   Pfam; PF00078; rvt; 1.
DR   SMART; SM00355; ZnF_C2H2; 1.
KW   RNA-directed DNA polymerase.
SQ   SEQUENCE   1638 AA;  184804 MW;  42F0D65B1D13D29F CRC64;


  Query Match             83.3%;  Score 40;  DB 5;  Length 1638;
  Best Local Similarity   77.8%;  Pred. No. 1.6e+02;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           ||| |:|||
Db      69 GSGLGIRPG 77


RESULT   4
Q9Z4X6
ID   Q9Z4X6      PRELIMINARY;      PRT;  7463 AA.
AC   Q9Z4X6;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   CDA PEPTIDE SYNTHETASE I.
GN   SCE63.03C.
OS   Streptomyces coelicolor.
OC   Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
OC   Actinomycetales; Streptomycineae; Streptomycetaceae; Streptomyces.
OX   NCBI_TaxID=1902;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=A3(2);
RA   Saunder D.C., Harris D.;
RL   Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=A3(2);
RA   Bentley S.D., Parkhill J., Barrell B.G., Rajandream M.A.;
RL   Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=A3(2);
RX   MEDLINE=97000351; PubMed=8843436;
RA   Redenbach M., Kieser H.M., Denapaite D., Eichner A., Cullum J.,
RA   Kinashi H., Hopwood D.A.;
RT   "A set of ordered cosmids and a detailed genetic and physical map for
RT   the 8 Mb Streptomyces coelicolor A3(2) chromosome.";
RL   Mol. Microbiol. 21:77-96(1996).
DR   EMBL; AL035640; CAB38518.1; -.
DR   HSSP; P14687; 1AMU.
DR   InterPro; IPR000873; AMP-bind.
DR   InterPro; IPR001242; DUF4.
DR   InterPro; IPR001899; Gram_pos_anchor.
DR   InterPro; IPR003880; Phosphopant_attach.
DR   InterPro; IPR000408; RCC1.
DR   InterPro; IPR000169; Thiolprot_act_site.
DR   Pfam; PF00501; AMP-binding; 6.
DR   Pfam; PF00668; Condensation; 8.
DR   Pfam; PF00550; pp-binding; 6.
DR   PROSITE; PS50075; ACP_DOMAIN; 6.
DR   PROSITE; PS00455; AMP_BINDING; 6.
DR   PROSITE; PS00343; GRAM_POS_ANCHORING; UNKNOWN_1.
DR   PROSITE; PS00012; PHOSPHOPANTETHEINE; UNKNOWN_5.
DR   PROSITE; PS00626; RCC1_2; UNKNOWN_1.
DR   PROSITE; PS00639; THIOL_PROTEASE_HIS; UNKNOWN_1.
KW   Phosphopantetheine.
SQ   SEQUENCE   7463 AA;  798618 MW;  6A168F63D4CFED54 CRC64;
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  Query Match             83.3%;  Score 40;  DB 2;  Length 7463;
  Best Local Similarity   77.8%;  Pred. No. 8e+02;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           |:||| |||
Db     976 GTGSGARPG 984


RESULT   5
Q52719
ID   Q52719      PRELIMINARY;      PRT;   195 AA.
AC   Q52719;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-NOV-1998 (TrEMBLrel. 08, Last annotation update)
DE   ORF10 (FRAGMENT).
OS   Rhodobacter capsulatus (Rhodopseudomonas capsulata).
OC   Bacteria; Proteobacteria; alpha subdivision; Rhodobacter group;
OC   Rhodobacter.
OX   NCBI_TaxID=1061;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=B10S;
RX   MEDLINE=94088454; PubMed=8264535;
RA   Schmehl M., Jahn A., Meyer zu Vilsendorf A., Hennecke S., Masepohl B.,
RA   Schuppler M., Marxer M., Oelze J., Klipp W.;
RT   "Identification of a new class of nitrogen fixation genes in
RT   Rhodobacter capsulatus: a putative membrane complex involved in
RT   electron transport to nitrogenase.";
RL   Mol. Gen. Genet. 241:602-615(1993).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=B10S;
RX   MEDLINE=90036712; PubMed=2681157;
RA   Schatt E., Jouanneau Y., Vignais P.M.;
RT   "Molecular cloning and sequence analysis of the structural gene of
RT   ferredoxin I from the photosynthetic bacterium Rhodobacter
RT   capsulatus.";
RL   J. Bacteriol. 171:6218-6226(1989).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=B10S;
RX   MEDLINE=90384835; PubMed=2402451;
RA   Jouanneau Y., Richaud P., Grabau C.;
RT   "The nucleotide sequence of a flavodoxin-like gene which precedes two
RT   ferredoxin genes in Rhodobacter capsulatus.";
RL   Nucleic Acids Res. 18:5284-5284(1990).
RN   [4]
RP   SEQUENCE FROM N.A.
RC   STRAIN=B10S;
RX   MEDLINE=91302301; PubMed=2071578;
RA   Saeki K., Suetsugu Y., Tokuda K.I., Miyatake Y., Young D.A.,
RA   Marrs B.L., Matsubara H.;
RT   "Genetic analysis of functional differences among distinct ferredoxins
RT   in Rhodobacter capsulatus.";
RL   J. Biol. Chem. 266:12889-12895(1991).
DR   EMBL; X72888; CAA51406.1; -.
FT   NON_TER       1      1
SQ   SEQUENCE   195 AA;  20985 MW;  56D1AFA4ADEE7D7C CRC64;


  Query Match             81.2%;  Score 39;  DB 2;  Length 195;
  Best Local Similarity   77.8%;  Pred. No. 26;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           |:||| |||
Db      99 GAGSGKRPG 107


RESULT   6
Q9RTX0
ID   Q9RTX0      PRELIMINARY;      PRT;   603 AA.
AC   Q9RTX0;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   N-ACETYLMURAMOYL-L-ALANINE AMIDASE, PUTATIVE.
GN   DR1632.
OS   Deinococcus radiodurans.
OC   Bacteria; Thermus/Deinococcus group; Deinococcales; Deinococcus.
OX   NCBI_TaxID=1299;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=R1;
RX   MEDLINE=20036896; PubMed=10567266;
RA   White O., Eisen J.A., Heidelberg J.F., Hickey E.K., Peterson J.D.,
RA   Dodson R.J., Haft D.H., Gwinn M.L., Nelson W.C., Richardson D.L.,
RA   Moffat K.S., Qin H., Jiang L., Pamphile W., Crosby M., Shen M.,
RA   Vamathevan J.J., Lam P., McDonald L., Utterback T., Zalewski C.,
RA   Makarova K.S., Aravind L., Daly M.J., Minton K.W., Fleischmann R.D.,
RA   Ketchum K.A., Nelson K.E., Salzberg S., Smith H.O., Venter J.C.,
RA   Fraser C.M.;
RT   "Genome sequence of the radioresistant bacterium Deinococcus
RT   radiodurans R1.";
RL   Science 286:1571-1577(1999).
DR   EMBL; AE002006; AAF11192.1; -.
DR   TIGR; DR1632; -.
DR   InterPro; IPR002508; Amidase_3.
DR   Pfam; PF01520; Amidase_3; 1.
KW   Complete proteome.
SQ   SEQUENCE   603 AA;  62776 MW;  245497F10A2C5AA5 CRC64;


  Query Match             81.2%;  Score 39;  DB 2;  Length 603;
  Best Local Similarity   77.8%;  Pred. No. 86;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           | |:|||||
Db     537 GIGAGLRPG 545


RESULT   7
Q66036
ID   Q66036      PRELIMINARY;      PRT;    86 AA.
AC   Q66036;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-NOV-1996 (TrEMBLrel. 01, Last annotation update)
DE   CAPSID PROTEIN (FRAGMENT).
OS   Canine herpesvirus.
OC   Viruses; dsDNA viruses, no RNA stage; Herpesviridae;
OC   Alphaherpesvirinae.
OX   NCBI_TaxID=37110;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=MILOU;
RX   MEDLINE=96099411; PubMed=8523550;
RA   Remond M., Sheldrick P., Lebreton F., Nardeux P., Foulon T.;
RT   "Directed integration of viral DNA mediated by fusion proteins
RT   consisting of human immunodeficiency virus type 1 integrase and
RT   Escherichia coli LexA protein.";
RL   J. Virol. 77:37-48(1996).
DR   EMBL; X89472; CAA61661.1; -.
FT   NON_TER       1      1
FT   NON_TER      86     86
SQ   SEQUENCE   86 AA;  9652 MW;  FD3EA16591E3BBA4 CRC64;


  Query Match             79.2%;  Score 38;  DB 12;  Length 86;
  Best Local Similarity   87.5%;  Pred. No. 17;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;
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Qy      1 GSGSGLRP 8
          | ||||||
Db     13 GDGSGLRP 20


RESULT   8
Q9F342
ID   Q9F342      PRELIMINARY;      PRT;   775 AA.
AC   Q9F342;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
DE   HYPOTHETICAL 75.8 KDA PROTEIN.
GN   SC9E12.13.
OS   Streptomyces coelicolor.
OC   Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
OC   Actinomycetales; Streptomycineae; Streptomycetaceae; Streptomyces.
OX   NCBI_TaxID=1902;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=A3(2);
RA   Saunders D.C., Harris D.;
RL   Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=A3(2);
RA   Cerdeno A.M., Parkhill J., Barrell B.G., Rajandream M.A.;
RL   Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=A3(2);
RX   MEDLINE=97000351; PubMed=8843436;
RA   Redenbach M., Kieser H.M., Denapaite D., Eichner A., Cullum J.,
RA   Kinashi H., Hopwood D.A.;
RT   "A set of ordered cosmids and a detailed genetic and physical map for
RT   the 8 Mb Streptomyces coelicolor A3(2) chromosome.";
RL   Mol. Microbiol. 21:77-96(1996).
DR   EMBL; AL391751; CAC05758.1; -.
KW   Hypothetical protein.
SQ   SEQUENCE   775 AA;  75820 MW;  E5032698A20A0711 CRC64;


  Query Match             79.2%;  Score 38;  DB 2;  Length 775;
  Best Local Similarity   77.8%;  Pred. No. 1.7e+02;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 GSGSGLRPG 9
          |:||| |||
Db    254 GNGSGPRPG 262


RESULT   9
O15984
ID   O15984      PRELIMINARY;      PRT;   849 AA.
AC   O15984;
DT   01-JAN-1998 (TrEMBLrel. 05, Created)
DT   01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   BM TRACHEALESS.
OS   Bombyx mori (Silk moth).
OC   Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
OC   Pterygota; Neoptera; Endopterygota; Lepidoptera; Glossata; Ditrysia;
OC   Bombycoidea; Bombycidae; Bombyx.
OX   NCBI_TaxID=7091;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Matsunami K.;
RL   Submitted (OCT-1997) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AB007832; BAA22946.1; -.
DR   InterPro; IPR000014; PAS.
DR   InterPro; IPR001092; HLH_dim.
DR   InterPro; IPR001610; PAC.
DR   InterPro; IPR003015; HLH_Myc.
DR   Pfam; PF00989; PAS; 2.
DR   PROSITE; PS00038; HELIX_LOOP_HELIX; UNKNOWN_1.
DR   SMART; SM00353; HLH; 1.
DR   SMART; SM00086; PAC; 1.
DR   SMART; SM00091; PAS; 2.
SQ   SEQUENCE   849 AA;  92748 MW;  AE81076F6D474164 CRC64;


  Query Match             79.2%;  Score 38;  DB 5;  Length 849;
  Best Local Similarity   77.8%;  Pred. No. 1.8e+02;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 GSGSGLRPG 9
          | |||| ||
Db     27 GPGSGLNPG 35


RESULT  10
Q9Z0Y7
ID   Q9Z0Y7      PRELIMINARY;      PRT;  1216 AA.
AC   Q9Z0Y7;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   INSULIN RECEPTOR SUBSTRATE 4.
GN   IRS4.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=LIVER;
RA   Fantin V.R., Jenkins N.A., Gilbert D.J., Copeland N.G., Lavan B.E.,
RA   Wang Q., Keller S.R., Lienhard G.E.;
RT   "Cloning, tissue expression, and chromosomal location of the mouse
RT   insulin receptor substrate 4 gene.";
RL   Submitted (AUG-1998) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF087797; AAD17797.1; -.
DR   HSSP; P35568; 1IRS.
DR   MGD; MGI:1338009; Irs4.
DR   InterPro; IPR002404; Insulin_Recep_S-1.
DR   InterPro; IPR001849; PH.
DR   Pfam; PF02174; IRS; 1.
DR   Pfam; PF00169; PH; 1.
DR   PRINTS; PR00628; INSULINRSI.
DR   SMART; SM00233; PH; 1.
DR   SMART; SM00310; PTBI; 1.
DR   PROSITE; PS50003; PH_DOMAIN; 1.
KW   Receptor.
SQ   SEQUENCE   1216 AA;  130090 MW;  CBB5E372128499FA CRC64;


  Query Match             79.2%;  Score 38;  DB 11;  Length 1216;
  Best Local Similarity   77.8%;  Pred. No. 2.7e+02;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 GSGSGLRPG 9
          ||| | |||
Db    551 GSGGGQRPG 559


RESULT  11
O14654
ID   O14654      PRELIMINARY;      PRT;  1257 AA.
AC   O14654;
DT   01-JAN-1998 (TrEMBLrel. 05, Created)
DT   01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   INSULIN RECEPTOR SUBSTRATE 4 (DA24A23.2) (INSULIN RECEPTOR SUBSTRATE
DE   4).
GN   DA24A23.2.
OS   Homo sapiens (Human).
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OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=KIDNEY;
RX   MEDLINE=97407931; PubMed=9261155;
RA   Lavan B.E., Fantin V.R., Chang E.T., Lane W.S., Keller S.R.,
RA   Lienhard G.E.;
RT   "A novel 160-kDa phosphotyrosine protein in insulin-treated embryonic
RT   kidney cells is a new member of the insulin receptor substrate
RT   family.";
RL   J. Biol. Chem. 272:21403-21407(1997).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Cobley V.;
RL   Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF007567; AAC51738.1; -.
DR   EMBL; AL035425; CAB90290.1; -.
DR   HSSP; P35568; 1IRS.
DR   InterPro; IPR002404; Insulin_Recep_S-1.
DR   InterPro; IPR001849; PH.
DR   Pfam; PF02174; IRS; 1.
DR   Pfam; PF00169; PH; 1.
DR   PRINTS; PR00628; INSULINRSI.
DR   SMART; SM00233; PH; 1.
DR   SMART; SM00310; PTBI; 1.
DR   PROSITE; PS50003; PH_DOMAIN; 1.
KW   Receptor.
SQ   SEQUENCE   1257 AA;  133766 MW;  4D512D65A7A80374 CRC64;

  Query Match             79.2%;  Score 38;  DB 4;  Length 1257;
  Best Local Similarity   77.8%;  Pred. No. 2.8e+02;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           ||| | |||
Db     557 GSGGGQRPG 565


RESULT  12
Q9LJ15
ID   Q9LJ15      PRELIMINARY;      PRT;    96 AA.
AC   Q9LJ15;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
DE   HYPOTHETICAL PROTEIN.
OS   Oryza sativa (Rice).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
OC   Ehrhartoideae; Oryzeae; Oryza.
OX   NCBI_TaxID=4530;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CV. NIPPONBARE;
RA   Sasaki T., Matsumoto T., Yamamoto K.;
RT   "Oryza sativa nipponbare(GA3) genomic DNA, chromosome 1, PAC
RT   clone:P0667A10.";
RL   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AP001073; BAA89575.1; -.
SQ   SEQUENCE   96 AA;  9686 MW;  2ACE6441717D52FF CRC64;

  Query Match             77.1%;  Score 37;  DB 10;  Length 96;
  Best Local Similarity   66.7%;  Pred. No. 28;
  Matches    6;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           | | |:|||
Db      22 GQGGGVRPG 30


RESULT  13
Q9UKY7
ID   Q9UKY7      PRELIMINARY;      PRT;   258 AA.
AC   Q9UKY7;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
DE   HYPOTHETICAL 27.3 KDA PROTEIN.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99428654; PubMed=10497265;
RA   Oh J.J., Grosshans D.R., Wong S.G., Slamon D.J.;
RT   "Identification of differentially expressed genes associated with HER-
RT   2/neu overexpression in human breast cancer cells.";
RL   Nucleic Acids Res. 27:4008-4017(1999).
DR   EMBL; AF103803; AAF02423.1; -.
KW   Hypothetical protein.
SQ   SEQUENCE   258 AA;  27335 MW;  4BE95D0C217EE346 CRC64;

  Query Match             77.1%;  Score 37;  DB 4;  Length 258;
  Best Local Similarity   66.7%;  Pred. No. 79;
  Matches    6;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 GSGSGLRPG 9
           |:|:| |||
Db      51 GAGAGTRPG 59


RESULT  14
Q43034
ID   Q43034      PRELIMINARY;      PRT;   295 AA.
AC   Q43034;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   LEUCINE AMINOPEPTIDASE (EC 3.4.11.1) (LEUCYL AMINOPEPTIDASE) (CYTOSOL
DE   AMINOPEPTIDASE) (PEPTIDASE S) (FRAGMENT).
OS   Petroselinum crispum (Parsley) (Petroselinum hortense).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
OC   Asteridae; euasterids II; Apiales; Apiaceae; Petroselinum.
OX   NCBI_TaxID=4043;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=LEAVES;
RA   Ernst D.;
RL   Submitted (JUL-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- CATALYTIC ACTIVITY: RELEASE OF AN N-TERMINAL AMINO ACID, XAA-|-
CC       XBB-, IN WHICH XAA IS PREFERABLY LEU, BUT MAY BE OTHER AMINO ACIDS
CC       INCLUDING PRO ALTHOUGH NOT ARG OR LYS, AND XBB MAY BE PRO.
CC   -!- COFACTOR: ZINC.
DR   EMBL; X99825; CAA68143.1; -.
DR   HSSP; P00727; 1LAM.
DR   MEROPS; M17.002; -.
DR   Mendel; 9791; Petcr;1419;9791.
DR   InterPro; IPR000819; Peptidase_M17.
DR   Pfam; PF00883; Peptidase_M17; 1.
DR   PRINTS; PR00481; LAMNOPPTDASE.
DR   PROSITE; PS00631; CYTOSOL_AP; 1.
KW   Aminopeptidase; Hydrolase.
FT   NON_TER       1       1
SQ   SEQUENCE   295 AA;  30850 MW;  56CB9BA7C62B2FE6 CRC64;

  Query Match             77.1%;  Score 37;  DB 10;  Length 295;
  Best Local Similarity   75.0%;  Pred. No. 90;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;
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Qy       2 SGSGLRPG 9
            ||:|:|||
Db     124 SGAGMRPG 131


RESULT  15
Q88198
ID   Q88198      PRELIMINARY;      PRT;   310 AA.
AC   Q88198;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   COAT PROTEIN (FRAGMENT).
GN   CP.
OS   sugarcane mosaic virus.
OC   Viruses; ssRNA positive-strand viruses, no DNA stage; Potyviridae;
OC   Potyvirus.
OX   NCBI_TaxID=12224;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=SCMV-SEEHAUSEN;
RA   Oertel U., Schubert J.L., Fuchs E.;
RL   Submitted (MAY-1996) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; X98166; CAA66847.1; -.
DR   InterPro; IPR001592; Poty_coat.
DR   Pfam; PF00767; Poty_coat; 1.
KW   Coat protein.
FT   NON_TER       1      1
SQ   SEQUENCE   310 AA;  33485 MW;  B5AF5E5A1A9010A4 CRC64;


  Query Match             77.1%;  Score 37;  DB 12;  Length 310;
  Best Local Similarity   87.5%;  Pred. No. 95;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

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Search completed: March 13, 2002, 09:04:21
Job time: 965 sec
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GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 08:50:20 ; Search time 115.24 Seconds
(without alignments)
5.785 Million cell updates/sec

Title: US-09-462-089-4
Perfect score: 48
Sequence: 1 GSGSGLRPG 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 522463 seqs, 74073290 residues

Total number of hits satisfying chosen parameters: 522463

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	48	100.0	9	21	AAB15365	Modified human LHR
2	42	87.5	186	21	AAG28749	Arabidopsis thalia
3	42	87.5	187	21	AAG28748	Arabidopsis thalia
4	42	87.5	202	21	AAG28747	Arabidopsis thalia
5	42	87.5	244	21	AAG09476	Arabidopsis thalia
6	42	87.5	271	21	AAG09475	Arabidopsis thalia
7	42	87.5	394	21	AAG54255	Arabidopsis thalia
8	42	87.5	395	21	AAG54254	Arabidopsis thalia
9	42	87.5	407	21	AAG50911	Arabidopsis thalia
10	42	87.5	409	21	AAG54253	Arabidopsis thalia
11	42	87.5	433	21	AAG50896	Arabidopsis thalia
12	42	87.5	434	21	AAG50910	Arabidopsis thalia
13	40	83.3	87	22	AAM42443	Human kidney relat
14	39	81.2	214	21	AAB56709	Human prostate can
15	38	79.2	138	19	AAW59616	Anti-RSV F protein
16	38	79.2	138	19	AAW59617	Anti-RSV F protein
17	38	79.2	138	19	AAW59618	Anti-RSV F protein
18	38	79.2	139	19	AAW59615	Anti-RSV F protein
19	38	79.2	551	22	AAG89813	C glutamicum prote
20	37.5	78.1	10	20	AAW94893	LHRH peptide fragm
21	37	77.1	123	21	AAG26930	Zea mays protein f
22	37	77.1	156	21	AAG26929	Zea mays protein f
23	37	77.1	157	21	AAG26928	Zea mays protein f
24	37	77.1	187	22	AAB83953	Amino acid sequenc
25	37	77.1	258	22	AAE00799	Human Her-2/neu ov
26	37	77.1	477	21	AAG29297	Arabidopsis thalia
27	37	77.1	478	21	AAG47163	Arabidopsis thalia
28	37	77.1	520	21	AAG29333	Arabidopsis thalia
29	37	77.1	525	21	AAG29296	Arabidopsis thalia
30	37	77.1	542	21	AAG29332	Arabidopsis thalia
31	37	77.1	570	21	AAB29636	Soybean cotyledon
32	37	77.1	581	21	AAG29295	Arabidopsis thalia
33	37	77.1	582	21	AAG47162	Arabidopsis thalia
34	37	77.1	615	20	AAW30659	Human tumour necro
35	36	75.0	30	21	AAB39282	Human secreted pro
36	36	75.0	55	14	AAR33066	Peptide from CD3 e
37	36	75.0	127	20	AAY11902	Human 5' EST secre
38	36	75.0	152	19	AAW56672	Paddy copper zinc
39	36	75.0	152	21	AAB12538	Rice superoxide di
40	36	75.0	152	21	AAG32918	Zea mays protein f
41	36	75.0	240	22	AAG75587	Human colon cancer
42	36	75.0	341	11	AAR06451	pMS10 contg. male
43	36	75.0	341	11	AAR06522	Tapetum-specific p
44	36	75.0	341	11	AAR09307	Male flower-specif
45	36	75.0	341	11	AAR09298	Male flower-specif

ALIGNMENTS

RESULT 1
AAB15365
ID AAB15365 standard; peptide; 9 AA.
XX
AC AAB15365;
XX
DT 17-JAN-2001 (first entry)
XX
DE Modified human LHRH peptide SEQ ID NO: 4.
XX
KW Human; LHRH; GnRH; luteinising hormone releasing hormone;
KW gonadotrophin releasing hormone; fertility control; cancer;
KW endometriosis; prostate enlargement.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO200041720-A1.
XX
PD 20-JUL-2000.
XX
PF 24-DEC-1999; 99WO-AU01167.
XX
PR 08-JAN-1999; 99AU-0008073.
XX
PA (CSLC-) CSL LTD.
XX
PI Walker J;
XX
DR WPI; 2000-475954/41.
XX
PT Adjuvant composition for manufacturing an immunogenic composition that
PT can elicit an immune response in an animal, comprises an ionic
PT polysaccharide component and a saponin component that is an

PT immunostimulating complex -
XX
PS Disclosure; Page 51; 53pp; English.
XX
CC The present sequence is a peptide fragment of human luteinising hormone
CC releasing hormone (also known as LHRH, GnRH and gonadotrophin releasing
CC hormone), which has spacers inserted at the N-terminus. It was used to
CC demonstrate the novel adjuvant of the invention, which has lower
CC reactogenicity then previous compositions. Vaccination of humans and
CC animals against LHRH can be used as a method of fertility control, as
CC well as enabling the control and treatment of disorders of the
CC reproductive organs, such as testicular, breast, prostate and ovarian
CC cancers, prostate enlargement and endometriosis. The composition of the
CC invention contains an anionic macromolecule and a saponin component, the
CC latter of which is an immunostimulant, and it can also be used with other
CC immunogens including soluble protein antigens, peptide haptens conjugated
CC to a carrier protein and whole viruses.
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 48; DB 21; Length 9;
Best Local Similarity 100.0%; Pred. No. 4.3e+05;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSGSGLRPG 9
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Db 1 gsgsglrpg 9

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AC AAG28749;
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DT 17-OCT-2000 (first entry)
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DE Arabidopsis thaliana protein fragment SEQ ID NO: 34084.
XX
KW Protein identification; signal transduction pathway; metabolic pathway;
KW hybridisation assay; genetic mapping; gene expression control; promoter;
KW termination sequence.
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OS Arabidopsis thaliana.
XX
PN EP1033405-A2.
XX
PD 06-SEP-2000.
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PF 25-FEB-2000; 2000EP-0301439.
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Query Match 87.5%; Score 42; DB 21; Length 186;
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Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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RESULT 3
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AC AAG28748;
XX
DT 17-OCT-2000 (first entry)
XX
DE Arabidopsis thaliana protein fragment SEQ ID NO: 34083.
XX
KW Protein identification; signal transduction pathway; metabolic pathway;
KW hybridisation assay; genetic mapping; gene expression control; promoter;
KW termination sequence.
XX
OS Arabidopsis thaliana.
XX
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PR 31-AUG-1999; 99US-0151438.
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PR 07-SEP-1999; 99US-0152363.
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PR 13-SEP-1999; 99US-0153758.
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PR 28-OCT-1999; 99US-0161992.
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PR 29-OCT-1999; 99US-0162142.

Query Match 87.5%; Score 42; DB 21; Length 187;
Best Local Similarity 100.0%; Pred. No. 30;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSGSGLRP 8
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Db 145 gsgsglrp 152

RESULT 4
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ID AAG28747 standard; Protein; 202 AA.
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AC AAG28747;
XX
DT 17-OCT-2000 (first entry)
XX
DE Arabidopsis thaliana protein fragment SEQ ID NO: 34082.
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KW Protein identification; signal transduction pathway; metabolic pathway;
KW hybridisation assay; genetic mapping; gene expression control; promoter;
KW termination sequence.
XX
OS Arabidopsis thaliana.
XX
PN EP1033405-A2.
XX
PD 06-SEP-2000.
XX
PF 25-FEB-2000; 2000EP-0301439.
XX
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PR 05-MAR-1999; 99US-0123180.
PR 09-MAR-1999; 99US-0123548.
PR 23-MAR-1999; 99US-0125788.
PR 25-MAR-1999; 99US-0126264.
PR 29-MAR-1999; 99US-0126785.
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PR 08-APR-1999; 99US-0128714.
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PR 31-AUG-1999; 99US-0151438.
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Query Match 87.5%; Score 42; DB 21; Length 202;
Best Local Similarity 100.0%; Pred. No. 32;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSGSGLRP 8
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Db 160 gsgsglrp 167

RESULT 5
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AC AAG09476;
XX
DT 17-OCT-2000 (first entry)
XX
DE Arabidopsis thaliana protein fragment SEQ ID NO: 7427.
XX
KW Protein identification; signal transduction pathway; metabolic pathway;
KW hybridisation assay; genetic mapping; gene expression control; promoter;
KW termination sequence.
XX
OS Arabidopsis thaliana.
XX
PN EP1033405-A2.
XX
PD 06-SEP-2000.
XX
PF 25-FEB-2000; 2000EP-0301439.
XX
PR 25-FEB-1999; 99US-0121825.
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PR 06-APR-1999; 99US-0128234.
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PR 31-AUG-1999; 99US-0151438.
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PR 10-SEP-1999; 99US-0153070.
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PR 04-OCT-1999; 99US-0157117.
PR 05-OCT-1999; 99US-0157753.
PR 06-OCT-1999; 99US-0157865.
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PR 12-OCT-1999; 99US-0158369.
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PR 29-OCT-1999; 99US-0162142.

Query Match 87.5%; Score 42; DB 21; Length 244;
Best Local Similarity 100.0%; Pred. No. 38;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSGSGLRP 8
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Db 129 gsgsglrp 136

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AC   AAG09475;
XX
DT   17-OCT-2000  (first entry)
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XX
KW   Protein identification; signal transduction pathway; metabolic pathway;
KW   hybridisation assay; genetic mapping; gene expression control; promoter;
KW   termination sequence.
XX
OS   Arabidopsis thaliana.
XX
PN   EP1033405-A2.
XX
PD   06-SEP-2000.
XX
PF   25-FEB-2000; 2000EP-0301439.
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PR   23-MAR-1999;   99US-0125788.
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KW hybridisation assay; genetic mapping; gene expression control; promoter;

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PR 28-OCT-1999; 99US-0161993.
PR 29-OCT-1999; 99US-0162142.

Query Match 87.5%; Score 42; DB 21; Length 395;
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Db    145 gsgsglrp 152
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DT 18-OCT-2000 (first entry)
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KW Protein identification; signal transduction pathway; metabolic pathway;
KW hybridisation assay; genetic mapping; gene expression control; promoter;
KW termination sequence.
XX
OS Arabidopsis thaliana.
XX
PN EP1033405-A2.
XX
PD 06-SEP-2000.
XX
PF 25-FEB-2000; 2000EP-0301439.
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PR 09-MAR-1999; 99US-0123548.
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Query Match 87.5%; Score 42; DB 21; Length 407;
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KW Protein identification; signal transduction pathway; metabolic pathway;
KW hybridisation assay; genetic mapping; gene expression control; promoter;
KW termination sequence.
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PR 29-OCT-1999; 99US-0162142.

Query Match 87.5%; Score 42; DB 21; Length 409;
Best Local Similarity 100.0%; Pred. No. 61;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GSGSGLRP 8
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Db 159 gsgsglrp 166

RESULT 11
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AC AAG50896;
XX
DT 18-OCT-2000 (first entry)
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XX
KW Protein identification; signal transduction pathway; metabolic pathway;
KW hybridisation assay; genetic mapping; gene expression control; promoter;
KW termination sequence.
XX
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XX
PN EP1033405-A2.
XX
PD 06-SEP-2000.
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PF 25-FEB-2000; 2000EP-0301439.
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KW antiproliferative; cytostatic; cardiant; vasotropic; cerebroprotective;
KW nootropic; neuroprotective; antibacterial; virucide; fungicide;
KW opthalmological; antiallergic; hepatotropic; antidiabetic;
KW antiinflammatory; antiulcer; vulnerary; anticonvulsant; antiparasitic;
KW gene therapy; cancer; immune disorder; cardiovascular disorder;
KW neurological disease; infection.
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PR   08-NOV-2000; 2000US-0246528.
PR   08-NOV-2000; 2000US-0246532.
PR   08-NOV-2000; 2000US-0246609.
PR   08-NOV-2000; 2000US-0246610.
PR   08-NOV-2000; 2000US-0246611.
PR   08-NOV-2000; 2000US-0246613.
PR   17-NOV-2000; 2000US-0249207.
PR   17-NOV-2000; 2000US-0249208.
PR   17-NOV-2000; 2000US-0249209.
PR   17-NOV-2000; 2000US-0249210.
PR   17-NOV-2000; 2000US-0249211.
PR   17-NOV-2000; 2000US-0249212.
PR   17-NOV-2000; 2000US-0249213.
PR   17-NOV-2000; 2000US-0249214.
PR   17-NOV-2000; 2000US-0249215.
PR   17-NOV-2000; 2000US-0249216.
PR   17-NOV-2000; 2000US-0249217.
PR   17-NOV-2000; 2000US-0249218.
PR   17-NOV-2000; 2000US-0249244.
PR   17-NOV-2000; 2000US-0249245.
PR   17-NOV-2000; 2000US-0249264.
PR   17-NOV-2000; 2000US-0249265.
PR   17-NOV-2000; 2000US-0249297.
PR   17-NOV-2000; 2000US-0249299.
PR   17-NOV-2000; 2000US-0249300.
PR   01-DEC-2000; 2000US-0250160.
PR   01-DEC-2000; 2000US-0250391.
PR   05-DEC-2000; 2000US-0251030.
PR   05-DEC-2000; 2000US-0251988.
PR   05-DEC-2000; 2000US-0256719.
PR   06-DEC-2000; 2000US-0251479.
PR   08-DEC-2000; 2000US-0251856.
PR   08-DEC-2000; 2000US-0251868.
PR   08-DEC-2000; 2000US-0251869.
PR   08-DEC-2000; 2000US-0251989.
PR   08-DEC-2000; 2000US-0251990.
PR   11-DEC-2000; 2000US-0254097.
PR   05-JAN-2001; 2001US-0259678.
XX
PA   (HUMA-) HUMAN GENOME SCI INC.
XX
PI   Rosen CA,  Barash SC,  Ruben SM;
XX
DR   WPI; 2001-488784/53.
DR   N-PSDB; AAI62997.
XX
PT   New isolated nucleic acids and polypeptides, useful for diagnosing,
PT   treating and/or preventing human diseases and disorders -
XX
PS   Claim 11; SEQ ID NO 312; 564pp + Sequence Listing; English.
XX
CC   The invention relates to novel kidney related polynucleotides
CC   (AAI62971-AAI63793) and the encoded polypeptides (AAM42417-AAM42691)
CC   collectively known as kidney antigens and the use of such kidney antigens
CC   for detecting disorders of the kidney, especially kidney cancer and
CC   kidney cancer metastases. The polynucleotides and proteins are also
CC   useful for preventing, treating or ameliorating medical conditions
CC   e.g. by protein or gene therapy. The genes are isolated from a range
CC   of human tissues disclosed in the specification. The nucleic acids,
CC   proteins, antibodies and (ant)agonists are useful in the diagnosis,
CC   treatment and prevention of: (a) cancer, e.g. breast and ovarian cancer,
CC   and other cancers of the adrenal gland, bone, bone marrow, breast,
CC   gastrointestinal tract, liver, lung, or urogenital; (b) immune disorders
CC   e.g. Addison's disease, allergies, autoimmune haemolytic anaemia,
CC   autoimmune thyroiditis, diabetes mellitus, Crohn's disease, multiple
CC   sclerosis, rheumatoid arthritis and ulcerative colitis;
CC   (c) cardiovascular disorders such as myocardial ischaemias; (d) wound
CC   healing; (e) neurological diseases e.g. cerebral anoxia and epilepsy;
CC   and (f) infectious diseases such as viral, bacterial, fungal and
CC   parasitic infections.
CC   Note: The sequence data for this patent did not form part of the
CC   printed specification, but was obtained in electronic format directly
CC   from WIPO at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence   87 AA;


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Db      32 gsgtglepg 40


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AAB56709
ID   AAB56709 standard; Protein; 214 AA.
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AC   AAB56709;
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DT   13-MAR-2001  (first entry)
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DE   Human prostate cancer antigen protein sequence SEQ ID NO:1287.
XX
KW   Human; prostate cancer; prostate cancer antigen; detection; diagnosis;
KW   neuroprotective; cytostatic; cardioactive; immunomodulatory; muscular;
KW   vulnerary; gastrointestinal; nephrotropic; antiinfective; gynaecological;
KW   antibacterial; gene therapy; neural; immune; reproductive; renal;
KW   gastrointestinal; pulmonary; cardiovascular; proliferative disorder;
KW   wound; infectious disease.
XX
OS   Homo sapiens.
XX
PN   WO200055174-A1.
XX
PD   21-SEP-2000.
XX
PF   08-MAR-2000; 2000WO-US05988.
XX
PR   12-MAR-1999;   99US-0124270.
XX
PA   (HUMA-) HUMAN GENOME SCI INC.
PA   (ROSE/) ROSEN C A.
XX
PI   Rosen CA,  Ruben SM;
XX
DR   WPI; 2000-587513/55.
DR   N-PSDB; AAF15912.
XX
PT   Prostate cancer associated gene sequences, referred to as prostate
PT   cancer antigens, useful for treatment, prevention, and diagnosis of
PT   disorders such as prostate cancer -
XX
PS   Claim 11; Page 1708; 2338pp; English.
XX
CC   AAF15566 to AAF16505 encode the human prostate cancer associated
CC   proteins, called prostate cancer antigens, given in AAB56363 to AAB57302.
CC   The prostate cancer antigens can have neuroprotective, cytostatic,
CC   cardioactive, immunomodulatory, muscular, vulnerary, gastrointestinal,
CC   nephrotropic, antiinfective, gynaecological and antibacterial activities,
CC   and can be used in gene therapy. The prostate cancer antigen
CC   polynucleotides may be used for detection of prostate cancer, chromosome
CC   identification, as chromosome markers, and for numerous other diagnostic
CC   or research purposes. The prostate cancer antigens may be used to treat
CC   disorders such as neural, immune, muscular, reproductive,
CC   gastrointestinal, pulmonary, cardiovascular, renal, and proliferative
CC   disorders, wounds, and infectious diseases. AAF16506 to AAF16514 to
CC   AAB57303 represent sequences used in the exemplification of the present
CC   invention.
XX
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SQ   Sequence   214 AA;

  Query Match            81.2%;  Score 39;  DB 21;  Length 214;
  Best Local Similarity   77.8%;  Pred. No. 95;
  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

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Db    154 gsgtglspg 162


RESULT  15
AAW59616
ID   AAW59616 standard; Protein; 138 AA.
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AC   AAW59616;
XX
DT   12-OCT-1998  (first entry)
XX
DE   Anti-RSV F protein Hu19 MAb heavy chain 19B.
XX
KW   Monoclonal antibody; human; Hu19B; engineered antibody; RSV;
KW   respiratory syncytial virus; complementarity determining region;
KW   CDR; infection; immunotherapy; therapy; diagnosis.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1..19
FT                   /label= Leader
FT   Region          50..54
FT                   /label= CDR1
FT   Region          69..85
FT                   /label= CDR2
FT   Region          118..127
FT                   /label= CDR3
FT   Modified-site   78..80
FT                   /note= "Asn is N-glycosylated"
XX
PN   WO9819704-A1.
XX
PD   14-MAY-1998.
XX
PF   23-OCT-1997;   97WO-US19203.
XX
PR   01-NOV-1996;   96US-0030149.
XX
PA   (SMIK ) SMITHKLINE BEECHAM CORP.
XX
PI   Deen KC,  Dillon SB,  Porter TG,  Sweet RW;
XX
DR   WPI; 1998-286600/25.
XX
PT   Monoclonal antibodies reactive with Respiratory Syncytial Virus -
PT   useful for detection, prevention and treatment of RSV infections
XX
PS   Claim 2; Page 51-52; 109pp; English.
XX
CC   This is the amino acid sequence of heavy chain construct 19B of
CC   novel human monoclonal antibodies (MAbs) reactive with the fusion
CC   (F) protein of respiratory syncytial virus (RSV).  The variable
CC   region was extracted from the Hu19 Fab plasmid C.  The glycosylation
CC   site in the CDR2 of 19B can be eliminated (see AAW59617-18) to reduce
CC   the heterogeneity of MAb expressed in eukaryotic host cells.  Hu19A,
CC   Hu19B, Hu19C and Hu19D MAbs are claimed.  These are reshaped human
CC   antibodies comprising a heavy chain selected from 19A, 19B, 19C or
CC   19D (see AAW59615-18), and a light chain selected from 19A, 19B, 19C
CC   or 19D (see AAW59620-21).  Such engineered antibodies are
CC   neutralising; they inhibit virus growth in vitro and in vivo in
CC   animal models of RSV infection.  They can be used in the detection,
CC   prevention and passive immunotherapy of RSV infection.  Nucleic
CC   acids encoding the human MAbs, recombinant plasmids (see AAV41427-33)
CC   and host cells (e.g. COS, CHO, myeloma) are provided.
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SQ   Sequence   138 AA;

  Query Match            79.2%;  Score 38;  DB 19;  Length 138;
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Qy      2 SGSGLRPG 9
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Db     27 sggglrpg 34


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GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 13, 2002, 08:48:14 ; Search time 55.91 Seconds
(without alignments)
3.622 Million cell updates/sec

Title: US-09-462-089-4
Perfect score: 48
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Searched: 212252 seqs, 22503292 residues

Total number of hits satisfying chosen parameters: 212252

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	36	75.0	151	2	US-08-722-050-5	Sequence 5, Appli
2	36	75.0	151	4	US-08-679-493A-191	Sequence 191, App
3	35.5	74.0	49	1	US-08-387-156-4	Sequence 4, Appli
4	35.5	74.0	49	2	US-08-694-865-4	Sequence 4, Appli
5	35.5	74.0	49	2	US-08-878-748-4	Sequence 4, Appli
6	35.5	74.0	49	3	US-09-124-491-4	Sequence 4, Appli
7	35.5	74.0	544	1	US-08-387-156-10	Sequence 10, Appl
8	35.5	74.0	544	2	US-08-694-865-10	Sequence 10, Appl
9	35.5	74.0	544	2	US-08-878-748-10	Sequence 10, Appl
10	35.5	74.0	544	3	US-09-124-491-10	Sequence 10, Appl
11	35.5	74.0	699	2	US-08-694-865-16	Sequence 16, Appl
12	35.5	74.0	699	3	US-09-124-491-16	Sequence 16, Appl
13	35.5	74.0	977	1	US-08-387-156-8	Sequence 8, Appli
14	35.5	74.0	977	2	US-08-694-865-8	Sequence 8, Appli
15	35.5	74.0	977	2	US-08-878-748-8	Sequence 8, Appli
16	35.5	74.0	977	3	US-09-124-491-8	Sequence 8, Appli
17	35	72.9	150	2	US-08-722-050-9	Sequence 9, Appli
18	35	72.9	2441	1	US-08-194-468-2	Sequence 2, Appli
19	35	72.9	2441	3	US-08-961-739-2	Sequence 2, Appli
20	34	70.8	76	1	US-08-089-862-10	Sequence 10, Appl
21	34	70.8	76	1	US-08-587-333-17	Sequence 17, Appl
22	34	70.8	76	5	PCT-US94-07776-15	Sequence 15, Appl
23	34	70.8	151	4	US-08-679-493A-192	Sequence 192, App
24	34	70.8	398	1	US-08-261-822A-16	Sequence 16, Appl
25	34	70.8	398	5	PCT-US95-07744A-16	Sequence 16, Appl
26	34	70.8	408	1	US-07-841-646-15	Sequence 15, Appl
27	34	70.8	408	1	US-08-147-023-15	Sequence 15, Appl
28	34	70.8	408	1	US-08-447-570-15	Sequence 15, Appl
29	34	70.8	408	2	US-08-449-700-15	Sequence 15, Appl
30	34	70.8	408	2	US-08-449-699A-15	Sequence 15, Appl
31	34	70.8	484	1	US-07-841-646-13	Sequence 13, Appl
32	34	70.8	484	1	US-08-147-023-13	Sequence 13, Appl
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37	34	70.8	1018	1	US-08-587-333-18	Sequence 18, Appl
38	34	70.8	1018	5	PCT-US94-07776-16	Sequence 16, Appl
39	33	68.8	96	1	US-07-623-611-3	Sequence 3, Appli
40	33	68.8	96	5	PCT-US91-09108-3	Sequence 3, Appli
41	33	68.8	98	1	US-07-623-611-9	Sequence 9, Appli
42	33	68.8	98	5	PCT-US91-09108-9	Sequence 9, Appli
43	33	68.8	99	1	US-07-623-611-8	Sequence 8, Appli
44	33	68.8	99	5	PCT-US91-09108-8	Sequence 8, Appli
45	33	68.8	106	1	US-07-623-611-7	Sequence 7, Appli

ALIGNMENTS

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RESULT   1
US-08-722-050-5
; Sequence 5, Application US/08722050
; Patent No. 5871729
;  GENERAL INFORMATION:
;    APPLICANT:  YU, GUO-LIANG
;    APPLICANT:  ROSEN, CRAIG A.
;    APPLICANT:  FRASER, CLAIRE M.
;    APPLICANT:  GOCAYNE, JEANNINE D.
;    TITLE OF INVENTION:  SUPEROXIDE DISMUTASE-4
;    NUMBER OF SEQUENCES:  16
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
;      STREET:  1100 NEW YORK AVENUE, N.W., SUITE 600
;      CITY:  WASHINGTON
;      STATE:  DC
;      COUNTRY:  USA
;      ZIP:  20005
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/722,050
;      FILING DATE:  23-JAN-1997
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/225,757
;      FILING DATE:  11-APR-1994
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  STEFFE, ERIC K.
;      REGISTRATION NUMBER:  36,688
;      REFERENCE/DOCKET NUMBER:  1488.1020001/EKS/AJK
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (202) 371-2600
;      TELEFAX:  (202) 371-2540
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  151 amino acids
;      TYPE:  amino acid
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;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-722-050-5


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RESULT   2
US-08-679-493A-191
; Sequence 191, Application US/08679493A
; Patent No. 6303295
; GENERAL INFORMATION:
;  APPLICANT: Taylor, Ethan W.
;  TITLE OF INVENTION: SELENOPROTEINS, CODING SEQUENCES AND METHODS
;  FILE REFERENCE: 55-95
;  CURRENT APPLICATION NUMBER: US/08/679,493A
;  CURRENT FILING DATE:  1996-07-12
;  PRIOR APPLICATION NUMBER: 60/001203
;  PRIOR FILING DATE: 1995-07-14
;  PRIOR APPLICATION NUMBER: 60/003,112
;  PRIOR FILING DATE: 1995-09-01
;  NUMBER OF SEQ ID NOS: 216
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 191
;   LENGTH: 151
;   TYPE: PRT
;   ORGANISM: corn
US-08-679-493A-191


  Query Match             75.0%;  Score 36;  DB 4;  Length 151;
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  Matches    7;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

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RESULT   3
US-08-387-156-4
; Sequence 4, Application US/08387156
; Patent No. 5723129
;  GENERAL INFORMATION:
;    APPLICANT:  POTTER, ANDREW A.
;    APPLICANT:  REDMOND, MARK J.
;    APPLICANT:  HUGHES, HUW P.A.
;    TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;    NUMBER OF SEQUENCES:  28
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  REED & ROBINS
;      STREET:  635 BRYANT STREET
;      CITY:  PALO ALTO
;      STATE:  CALIFORNIA
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  94301
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/387,156
;      FILING DATE:  10-FEB-1995
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/960,932
;      FILING DATE:  14-OCT-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/779,171
;      FILING DATE:  16-OCT-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  ROBINS, ROBERTA L.
;      REGISTRATION NUMBER:  33,208
;      REFERENCE/DOCKET NUMBER:  9001-0016.21
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415) 617-8999
;      TELEFAX:  (415) 327-3231
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  49 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-387-156-4


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RESULT   4
US-08-694-865-4
; Sequence 4, Application US/08694865
; Patent No. 5837268
;  GENERAL INFORMATION:
;    APPLICANT:  POTTER, ANDREW A.
;    APPLICANT:  MANNS, JOHN G.
;    TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  REED & ROBINS LLP
;      STREET:  285 HAMILTON AVENUE, SUITE 200
;      CITY:  PALO ALTO
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  94301
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/694,865
;      FILING DATE:  09-AUG-1996
;      CLASSIFICATION:  424
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  MCCRACKEN, THOMAS P.
;      REGISTRATION NUMBER:  38,548
;      REFERENCE/DOCKET NUMBER:  9001-0016.22
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415)327-3400
;      TELEFAX:  (415)327-3231
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  49 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-694-865-4


  Query Match             74.0%;  Score 35.5;  DB 2;  Length 49;
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  Matches    9;  Conservative    0;  Mismatches    0;  Indels    5;  Gaps    1;

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RESULT   5
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US-08-878-748-4
; Sequence 4, Application US/08878748
; Patent No. 5969126
; GENERAL INFORMATION:
;   APPLICANT:  POTTER, ANDREW A.
;   APPLICANT:  REDMOND, MARK J.
;   APPLICANT:  HUGHES, HUW P.A.
;   TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;   NUMBER OF SEQUENCES:  28
;   CORRESPONDENCE ADDRESS:
;     ADDRESSEE:  REED & ROBINS
;     STREET:  635 BRYANT STREET
;     CITY:  PALO ALTO
;     STATE:  CALIFORNIA
;     COUNTRY:  UNITED STATES OF AMERICA
;     ZIP:  94301
;   COMPUTER READABLE FORM:
;     MEDIUM TYPE:  Floppy disk
;     COMPUTER:  IBM PC compatible
;     OPERATING SYSTEM:  PC-DOS/MS-DOS
;     SOFTWARE:  PatentIn Release #1.0, Version #1.25
;   CURRENT APPLICATION DATA:
;     APPLICATION NUMBER:  US/08/878,748
;     FILING DATE:  19-JUN-1997
;     CLASSIFICATION:  536
;   PRIOR APPLICATION DATA:
;     APPLICATION NUMBER:  US 08/387,156
;     FILING DATE:  10-FEB-1995
;     APPLICATION NUMBER:  US 07/960,932
;     FILING DATE:  14-OCT-1992
;   PRIOR APPLICATION DATA:
;     APPLICATION NUMBER:  US 07/779,171
;     FILING DATE:  16-OCT-1991
;   ATTORNEY/AGENT INFORMATION:
;     NAME:  ROBINS, ROBERTA L.
;     REGISTRATION NUMBER:  33,208
;     REFERENCE/DOCKET NUMBER:  9001-0016.21
;   TELECOMMUNICATION INFORMATION:
;     TELEPHONE:  (415) 617-8999
;     TELEFAX:  (415) 327-3231
; INFORMATION FOR SEQ ID NO:  4:
;   SEQUENCE CHARACTERISTICS:
;     LENGTH:  49 amino acids
;     TYPE:  amino acid
;     TOPOLOGY:  linear
;   MOLECULE TYPE:  protein
US-08-878-748-4


  Query Match             74.0%;  Score 35.5;  DB 2;  Length 49;
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Db      10 GSGSQDWSYGLRPG 23


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US-09-124-491-4
; Sequence 4, Application US/09124491
; Patent No. 6022960
; GENERAL INFORMATION:
;   APPLICANT:  POTTER, ANDREW A.
;   APPLICANT:  MANNS, JOHN G.
;   TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;   NUMBER OF SEQUENCES:  34
;   CORRESPONDENCE ADDRESS:
;     ADDRESSEE:  REED & ROBINS LLP
;     STREET:  285 HAMILTON AVENUE, SUITE 200
;     CITY:  PALO ALTO
;     STATE:  CA
;     COUNTRY:  USA
;     ZIP:  94301
;   COMPUTER READABLE FORM:
;     MEDIUM TYPE:  Floppy disk
;     COMPUTER:  IBM PC compatible
;     OPERATING SYSTEM:  PC-DOS/MS-DOS
;     SOFTWARE:  PatentIn Release #1.0, Version #1.30
;   CURRENT APPLICATION DATA:
;     APPLICATION NUMBER:  US/09/124,491
;     FILING DATE:
;     CLASSIFICATION:
;   PRIOR APPLICATION DATA:
;     APPLICATION NUMBER:  US 08/694,865
;     FILING DATE:  09-AUG-1996
;     APPLICATION NUMBER:  US 08/387,156
;     FILING DATE:  10-FEB-1995
;   PRIOR APPLICATION DATA:
;     APPLICATION NUMBER:  US 07/960,932
;     FILING DATE:  14-OCT-1992
;   PRIOR APPLICATION DATA:
;     APPLICATION NUMBER:  US 07/779,171
;     FILING DATE:  16-OCT-1991
;   ATTORNEY/AGENT INFORMATION:
;     NAME:  MCCRACKEN, THOMAS P.
;     REGISTRATION NUMBER:  38,548
;     REFERENCE/DOCKET NUMBER:  9001-0016.22
;   TELECOMMUNICATION INFORMATION:
;     TELEPHONE:  (415)327-3400
;     TELEFAX:  (415)327-3231
; INFORMATION FOR SEQ ID NO:  4:
;   SEQUENCE CHARACTERISTICS:
;     LENGTH:  49 amino acids
;     TYPE:  amino acid
;     TOPOLOGY:  linear
;   MOLECULE TYPE:  protein
US-09-124-491-4


  Query Match             74.0%;  Score 35.5;  DB 3;  Length 49;
  Best Local Similarity   64.3%;  Pred. No. 34;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    5;  Gaps    1;

Qy       1 GSGS-----GLRPG 9
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Db      10 GSGSQDWSYGLRPG 23


RESULT   7
US-08-387-156-10
; Sequence 10, Application US/08387156
; Patent No. 5723129
; GENERAL INFORMATION:
;   APPLICANT:  POTTER, ANDREW A.
;   APPLICANT:  REDMOND, MARK J.
;   APPLICANT:  HUGHES, HUW P.A.
;   TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;   NUMBER OF SEQUENCES:  28
;   CORRESPONDENCE ADDRESS:
;     ADDRESSEE:  REED & ROBINS
;     STREET:  635 BRYANT STREET
;     CITY:  PALO ALTO
;     STATE:  CALIFORNIA
;     COUNTRY:  UNITED STATES OF AMERICA
;     ZIP:  94301
;   COMPUTER READABLE FORM:
;     MEDIUM TYPE:  Floppy disk
;     COMPUTER:  IBM PC compatible
;     OPERATING SYSTEM:  PC-DOS/MS-DOS
;     SOFTWARE:  PatentIn Release #1.0, Version #1.25
;   CURRENT APPLICATION DATA:
;     APPLICATION NUMBER:  US/08/387,156
;     FILING DATE:  10-FEB-1995
;     CLASSIFICATION:  424
;   PRIOR APPLICATION DATA:
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;      APPLICATION NUMBER:  US 07/960,932
;      FILING DATE:  14-OCT-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/779,171
;      FILING DATE:  16-OCT-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  ROBINS, ROBERTA L.
;      REGISTRATION NUMBER:  33,208
;      REFERENCE/DOCKET NUMBER:  9001-0016.21
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415) 617-8999
;      TELEFAX:  (415) 327-3231
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  544 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-387-156-10


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  Best Local Similarity   64.3%;  Pred. No. 3.1e+02;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    5;  Gaps    1;

Qy       1 GSGS-----GLRPG 9
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Db     503 GSGSQDWSYGLRPG 516


RESULT   8
US-08-694-865-10
; Sequence 10, Application US/08694865
; Patent No. 5837268
;  GENERAL INFORMATION:
;    APPLICANT:  POTTER, ANDREW A.
;    APPLICANT:  MANNS, JOHN G.
;    TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  REED & ROBINS LLP
;      STREET:  285 HAMILTON AVENUE, SUITE 200
;      CITY:  PALO ALTO
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  94301
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/694,865
;      FILING DATE:  09-AUG-1996
;      CLASSIFICATION:  424
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  MCCRACKEN, THOMAS P.
;      REGISTRATION NUMBER:  38,548
;      REFERENCE/DOCKET NUMBER:  9001-0016.22
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415)327-3400
;      TELEFAX:  (415)327-3231
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  544 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-694-865-10


  Query Match             74.0%;  Score 35.5;  DB 2;  Length 544;
  Best Local Similarity   64.3%;  Pred. No. 3.1e+02;
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Qy       1 GSGS-----GLRPG 9
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Db     503 GSGSQDWSYGLRPG 516


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US-08-878-748-10
; Sequence 10, Application US/08878748
; Patent No. 5969126
;  GENERAL INFORMATION:
;    APPLICANT:  POTTER, ANDREW A.
;    APPLICANT:  REDMOND, MARK J.
;    APPLICANT:  HUGHES, HUW P.A.
;    TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;    NUMBER OF SEQUENCES:  28
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  REED & ROBINS
;      STREET:  635 BRYANT STREET
;      CITY:  PALO ALTO
;      STATE:  CALIFORNIA
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  94301
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/878,748
;      FILING DATE:  19-JUN-1997
;      CLASSIFICATION:  536
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/387,156
;      FILING DATE:  10-FEB-1995
;      APPLICATION NUMBER:  US 07/960,932
;      FILING DATE:  14-OCT-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/779,171
;      FILING DATE:  16-OCT-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  ROBINS, ROBERTA L.
;      REGISTRATION NUMBER:  33,208
;      REFERENCE/DOCKET NUMBER:  9001-0016.21
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415) 617-8999
;      TELEFAX:  (415) 327-3231
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  544 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-878-748-10


  Query Match             74.0%;  Score 35.5;  DB 2;  Length 544;
  Best Local Similarity   64.3%;  Pred. No. 3.1e+02;
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Qy       1 GSGS-----GLRPG 9
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Db     503 GSGSQDWSYGLRPG 516


RESULT  10
US-09-124-491-10
; Sequence 10, Application US/09124491
; Patent No. 6022960
;  GENERAL INFORMATION:
;    APPLICANT:  POTTER, ANDREW A.
;    APPLICANT:  MANNS, JOHN G.
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;    TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  REED & ROBINS LLP
;      STREET:  285 HAMILTON AVENUE, SUITE 200
;      CITY:  PALO ALTO
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  94301
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/124,491
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/694,865
;      FILING DATE:  09-AUG-1996
;      APPLICATION NUMBER:  US 08/387,156
;      FILING DATE:  10-FEB-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/960,932
;      FILING DATE:  14-OCT-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/779,171
;      FILING DATE:  16-OCT-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  MCCRACKEN, THOMAS P.
;      REGISTRATION NUMBER:  38,548
;      REFERENCE/DOCKET NUMBER:  9001-0016.22
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415)327-3400
;      TELEFAX:  (415)327-3231
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  544 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-124-491-10


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  Matches    9;  Conservative    0;  Mismatches    0;  Indels    5;  Gaps    1;

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          ||||     |||||
Db    503 GSGSQDWSYGLRPG 516


RESULT  11
US-08-694-865-16
; Sequence 16, Application US/08694865
; Patent No. 5837268
;  GENERAL INFORMATION:
;    APPLICANT:  POTTER, ANDREW A.
;    APPLICANT:  MANNS, JOHN G.
;    TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  REED & ROBINS LLP
;      STREET:  285 HAMILTON AVENUE, SUITE 200
;      CITY:  PALO ALTO
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  94301
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/694,865
;      FILING DATE:  09-AUG-1996
;      CLASSIFICATION:  424
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  MCCRACKEN, THOMAS P.
;      REGISTRATION NUMBER:  38,548
;      REFERENCE/DOCKET NUMBER:  9001-0016.22
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415)327-3400
;      TELEFAX:  (415)327-3231
;  INFORMATION FOR SEQ ID NO:  16:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  699 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-694-865-16


  Query Match             74.0%;  Score 35.5;  DB 2;  Length 699;
  Best Local Similarity   64.3%;  Pred. No. 3.9e+02;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    5;  Gaps    1;

Qy      1 GSGS-----GLRPG 9
          ||||     |||||
Db     18 GSGSQDWSYGLRPG 31


RESULT  12
US-09-124-491-16
; Sequence 16, Application US/09124491
; Patent No. 6022960
;  GENERAL INFORMATION:
;    APPLICANT:  POTTER, ANDREW A.
;    APPLICANT:  MANNS, JOHN G.
;    TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  REED & ROBINS LLP
;      STREET:  285 HAMILTON AVENUE, SUITE 200
;      CITY:  PALO ALTO
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  94301
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/124,491
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/694,865
;      FILING DATE:  09-AUG-1996
;      APPLICATION NUMBER:  US 08/387,156
;      FILING DATE:  10-FEB-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/960,932
;      FILING DATE:  14-OCT-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/779,171
;      FILING DATE:  16-OCT-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  MCCRACKEN, THOMAS P.
;      REGISTRATION NUMBER:  38,548
;      REFERENCE/DOCKET NUMBER:  9001-0016.22
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415)327-3400
```

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;      TELEFAX:  (415)327-3231
;  INFORMATION FOR SEQ ID NO:  16:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  699 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-124-491-16


  Query Match             74.0%;  Score 35.5;  DB 3;  Length 699;
  Best Local Similarity   64.3%;  Pred. No. 3.9e+02;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    5;  Gaps    1;

Qy       1 GSGS-----GLRPG 9
           ||||     |||||
Db      18 GSGSQDWSYGLRPG 31


RESULT  13
US-08-387-156-8
; Sequence 8, Application US/08387156
; Patent No. 5723129
;  GENERAL INFORMATION:
;    APPLICANT:  POTTER, ANDREW A.
;    APPLICANT:  REDMOND, MARK J.
;    APPLICANT:  HUGHES, HUW P.A.
;    TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;    NUMBER OF SEQUENCES:  28
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  REED & ROBINS
;      STREET:  635 BRYANT STREET
;      CITY:  PALO ALTO
;      STATE:  CALIFORNIA
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  94301
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/387,156
;      FILING DATE:  10-FEB-1995
;      CLASSIFICATION:  424
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/960,932
;      FILING DATE:  14-OCT-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/779,171
;      FILING DATE:  16-OCT-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  ROBINS, ROBERTA L.
;      REGISTRATION NUMBER:  33,208
;      REFERENCE/DOCKET NUMBER:  9001-0016.21
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415) 617-8999
;      TELEFAX:  (415) 327-3231
;  INFORMATION FOR SEQ ID NO:  8:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  977 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-387-156-8


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  Best Local Similarity   64.3%;  Pred. No. 5.3e+02;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    5;  Gaps    1;

Qy       1 GSGS-----GLRPG 9
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Db     936 GSGSQDWSYGLRPG 949


RESULT  14
US-08-694-865-8
; Sequence 8, Application US/08694865
; Patent No. 5837268
;  GENERAL INFORMATION:
;    APPLICANT:  POTTER, ANDREW A.
;    APPLICANT:  MANNS, JOHN G.
;    TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;    NUMBER OF SEQUENCES:  34
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  REED & ROBINS LLP
;      STREET:  285 HAMILTON AVENUE, SUITE 200
;      CITY:  PALO ALTO
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  94301
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/694,865
;      FILING DATE:  09-AUG-1996
;      CLASSIFICATION:  424
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  MCCRACKEN, THOMAS P.
;      REGISTRATION NUMBER:  38,548
;      REFERENCE/DOCKET NUMBER:  9001-0016.22
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415)327-3400
;      TELEFAX:  (415)327-3231
;  INFORMATION FOR SEQ ID NO:  8:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  977 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-694-865-8


  Query Match             74.0%;  Score 35.5;  DB 2;  Length 977;
  Best Local Similarity   64.3%;  Pred. No. 5.3e+02;
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Qy       1 GSGS-----GLRPG 9
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Db     936 GSGSQDWSYGLRPG 949


RESULT  15
US-08-878-748-8
; Sequence 8, Application US/08878748
; Patent No. 5969126
;  GENERAL INFORMATION:
;    APPLICANT:  POTTER, ANDREW A.
;    APPLICANT:  REDMOND, MARK J.
;    APPLICANT:  HUGHES, HUW P.A.
;    TITLE OF INVENTION:  GnRH-LEUKOTOXIN CHIMERAS
;    NUMBER OF SEQUENCES:  28
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  REED & ROBINS
;      STREET:  635 BRYANT STREET
;      CITY:  PALO ALTO
;      STATE:  CALIFORNIA
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  94301
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
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;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.25
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/878,748
;       FILING DATE:  19-JUN-1997
;       CLASSIFICATION:  536
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 08/387,156
;       FILING DATE:  10-FEB-1995
;       APPLICATION NUMBER:  US 07/960,932
;       FILING DATE:  14-OCT-1992
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/779,171
;       FILING DATE:  16-OCT-1991
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  ROBINS, ROBERTA L.
;       REGISTRATION NUMBER:  33,208
;       REFERENCE/DOCKET NUMBER:  9001-0016.21
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (415) 617-8999
;       TELEFAX:  (415) 327-3231
;   INFORMATION FOR SEQ ID NO:  8:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  977 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
US-08-878-748-8


  Query Match             74.0%;  Score 35.5;  DB 2;  Length 977;
  Best Local Similarity   64.3%;  Pred. No. 5.3e+02;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    5;  Gaps    1;

Qy       1 GSGS-----GLRPG 9
           ||||     |||||
Db     936 GSGSQDWSYGLRPG 949


Search completed: March 13, 2002, 08:48:14
Job time: 142 sec
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Connecting via Winsock to STN

Trying 3106016892...Open

Welcome to STN International!  Enter x:x
LOGINID:SSSPTA1644PNH
PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1           Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2  Sep 17   IMSworld Pharmaceutical Company Directory name change
                   to PHARMASEARCH
 NEWS  3  Oct 09   Korean abstracts now included in Derwent World Patents
                   Index
 NEWS  4  Oct 09   Number of Derwent World Patents Index updates increased
 NEWS  5  Oct 15   Calculated properties now in the REGISTRY/ZREGISTRY File
 NEWS  6  Oct 22   Over 1 million reactions added to CASREACT
 NEWS  7  Oct 22   DGENE GETSIM has been improved
 NEWS  8  Oct 29   AAASD no longer available
 NEWS  9  Nov 19   New Search Capabilities  USPATFULL and USPAT2
 NEWS 10  Nov 19   TOXCENTER(SM) - new toxicology file now available on STN
 NEWS 11  Nov 29   COPPERLIT now available on STN
 NEWS 12  Nov 29   DWPI revisions to NTIS and US Provisional Numbers
 NEWS 13  Nov 30   Files VETU and VETB to have open access
 NEWS 14  Dec 10   WPINDEX/WPIDS/WPIX New and Revised Manual Codes for 2002
 NEWS 15  Dec 10   DGENE BLAST Homology Search
 NEWS 16  Dec 17   WELDASEARCH now available on STN
 NEWS 17  Dec 17   STANDARDS now available on STN
 NEWS 18  Dec 17   New fields for DPCI
 NEWS 19  Dec 19   CAS Roles modified
 NEWS 20  Dec 19   1907-1946 data and page images added to CA and CAplus
 NEWS 21  Jan 25   BLAST(R) searching in REGISTRY available in STN on the Web
 NEWS 22  Jan 25   Searching with the P indicator for Preparations
 NEWS 23  Jan 29   FSTA has been reloaded and moves to weekly updates
 NEWS 24  Feb 01   DKILIT now produced by FIZ Karlsruhe and has a new update
                   frequency
 NEWS 25  Feb 19   Access via Tymnet and SprintNet Eliminated Effective 3/31/02
 NEWS 26  Mar 08   Gene Names now available in BIOSIS

 NEWS EXPRESS  February 1 CURRENT WINDOWS VERSION IS V6.0d,
               CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP),
               AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002
 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
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=> s LHRH conjugate
L1          30 LHRH CONJUGATE

=> s l1 and diphtheria toxoid
L2           3 L1 AND DIPHTHERIA TOXOID

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L3           3 DUP REMOVE L2 (0 DUPLICATES REMOVED)

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L3   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2002 ACS
2000:493406  Document No. 133:115532  Improved saponin adjuvant compositions
     and methods relating thereto.  Walker, John (CSL Limited, Australia).  PCT
     Int. Appl. WO 2000041720 A1 20000720, 53 pp.  DESIGNATED STATES: W:  AE,
     AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK,
     DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
     KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO,
     NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,
     US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE,
     BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT,
     LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG.  (English).  CODEN: PIXXD2.
     APPLICATION: WO 1999-AU1167 19991224.  PRIORITY: AU 1999-8073 19990108.
AB   An adjuvant compn. which comprises an anionic macromol. component
     particularly an ionic polysaccharide such as DEAE-dextran, and a saponin
     component, particularly an immunostimulating complex component.
     Immunogenic compns. comprising an immunogen and this adjuvant compn. are
     also disclosed together with methods of use thereof.  Formulations with
     LHRH peptides may be used for regulation of fertility of domestic animals.

L3   ANSWER 2 OF 3  CAPLUS  COPYRIGHT 2002 ACS
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1999:64702 Document No. 130:138280 Immunogenic LHRH compositions and methods relating thereto. McNamara, Michael Kerin (CSL Limited, Australia). PCT Int. Appl. WO 9902180 A1 19990121, 41 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-AU532 19980709. PRIORITY: AU 1997-7768 19970709.

AB The present invention relates generally to an immunogenic LHRH compn. and more particularly to an immunogenic LHRH compn. comprising an LHRH C-terminal fragment of at least five amino acids. The present invention is useful, inter alia, as a prophylactic and/or therapeutic agent for the modification of fertility and behavior patterns of animals, the achievement of livestock prodn. gains such as increasing growth, decreasing feed conversion ratios or the control of unwanted organoleptic characteristics or the treatment of disorders of the reproductive organs.

L3 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS

1991:506492 Document No. 115:106492 Influence of the genetic background and carrier protein on the antibody response to GnRH. Sad, Subash; Talwar, G. P.; Raghupathy, Raj (Natl. Inst. Immunol., New Delhi, 110067, India). J. Reprod. Immunol., 19(2), 197-207 (English) 1991. CODEN: JRIMDR. ISSN: 0165-0378.

AB A vaccine against the gonadotropin-releasing hormone (GnRH) is being developed as an immunol. method for the treatment of prostatic enlargement. The influence of the genetic back-ground on immune responses to GnRH conjugated to **diphtheria toxoid** (DT) was investigated. Mice of different strains were injected with the conjugate and the antibody levels against GnRH and DT quantitated in order to examine the effect of genetic background on immune responses to the hapten and the carrier. All immunized animals produced antibodies to DT. Anti-GnRH antibodies were generated by all strains of mice except 129. The low anti-GnRH response in the 129 strain mice did not appear to be MHC-linked,as C57BL/6 mice, which bear the same MHC haplotype as 129 mice, were able to generate a strong anti-GnRH response. The non-responsiveness to the hapten (GnRH) in 129 strain mice was overcome by the use of an "alternate carrier" approach.

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L4 22 DUP REMOVE L1 (8 DUPLICATES REMOVED)

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L4 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2002 ACS

2001:297646 Document No. 134:311586 Ionic molecular conjugates of biodegradable polyesters and bioactive polypeptides. Shalaby, Shalaby Wahba; Jackson, Steven A.; Moreau, Jacques-Pierre (Societe de Conseils de Recherches et d'Applications Scientifiques, SAS, Fr.). U.S. US 6221958 B1 20010424, 17 pp., Cont.-in-part of U.S. 5,863,985. (English). CODEN: USXXAM. APPLICATION: US 1999-237405 19990126. PRIORITY: IE 1993-5 19930106; WO 1994-US148 19940105; US 1995-464735 19950629; US 1997-867308 19970602.

AB Disclosed is a sustained release pharmaceutical compn. The compn. includes a polyester contg. a free COOH group ionically conjugated with a bioactive polypeptide comprising at least one effective ionogenic amine, wherein at least 50% by wt. of the polypeptide present in the compn. is ionically conjugated to the polyester. The polyesters contain citric acid or tartaric acid.

L4 ANSWER 2 OF 22 MEDLINE DUPLICATE 1

2002010552 Document Number: 21252950. PubMed ID: 11353532. Synthesis, characterization, and labeling with 99mTc/188Re of peptide conjugates containing a dithia-bisphosphine chelating agent. Gali H; Hoffman T J; Sieckman G L; Owen N K; Katti K V; Volkert W A. (Department of Radiology, University of Missouri-Columbia, Columbia, Missouri 65211, USA.) BIOCONJUGATE CHEMISTRY, (2001 May-Jun) 12 (3) 354-63. Journal code: 9010319. ISSN: 1043-1802. Pub. country: United States. Language: English.

AB Radiolabeling of small receptor-avid peptides at specific predetermined chelation sites with radioactive metals has been an effective approach for production of target-specific radiopharmaceuticals for diagnosis and therapy of diseases. Among various electron-donating groups found on chelator frameworks, phosphines are unique because they display versatile coordination chemistry with a wide range of transition metals. We have recently reported the utility of a dithia-bis(hydroxymethyl)phosphine-based (P2S2) bifunctional chelating agent (BFCA) containing air-stable primary phosphine groups to form 99mTc-labeled receptor-avid peptides by the preconjugation approach. Here we report a novel strategy for labeling small peptides with both 99mTc and 188Re using the P2S2-COOH (6,8-bis[3-(bis(hydroxymethyl)phosphanyl)propylsulfanyl]octanoic acid) BFCA by a postconjugation radiolabeling approach. The first step in this approach involves the coupling of the corresponding (PH2)2S2-COOH intermediate to the N-terminus of the peptide(s). Formylation of P-H bonds with aqueous formaldehyde in the presence of HCl in ethanol affords the corresponding (hydroxymethyl)phosphine-P2S2-peptide conjugates in the form of an oxidatively stable phosphonium salt. The P2S2-peptide conjugates are generated (where the PH2 groups are converted to P(CH2OH)2 groups) by treatment of the P2S2-peptide phosphonium salt(s) with 1 M sodium bicarbonate solution at pH 8.5. Complexation of BFCA conjugates with 99mTc is achieved by direct reduction with Sn(II) tartarate to yield the 99mTc-P2S2-peptide conjugate in near quantitative yields. Complexation of the BFCA conjugates with 188Re is achieved by transchelation with 188Re citrate in yields of >/=90%. In this study, (PH2)2S2-COOH BFCA was conjugated to model peptides. The glycineglycine ethyl ester (GlyGlyOEt)-(PH2)2S2-COOH BFCA conjugate was converted to the hydroxymethylene phosphine form and complexed with 99mTc to produce the 99mTcO2-P2S2-GlyGlyOEt conjugate 8 in RCPs of >/=95%. This singular 99mTc product is stable over 24 h in aqueous solution as confirmed by HPLC. Identical retention times of the 99mTcO2-P2S2-GlyGlyOEt complex and its cold rhenium analogue (ReO2-P2S2-GlyGlyOEt) on HPLC indicates similarity in structures at the macroscopic and the tracer levels. The utility of this postconjugation strategy was further demonstrated by synthesizing a P2S2-D-Lys6-**LHRH conjugate** and producing its corresponding 99mTc complex in RCPs of >/=88%. Finally, the P2S2-5-Ava-BBN[7-14]NH2 bombesin (BBN) analogue was synthesized, the PH2 groups converted to P(CH2OH)2 groups and subsequently labeled with 188Re to yield a 188Re-labeled bombesin analogue with a RCP of >/=90%. The biological integrity of this conjugate was demonstrated in both in vitro and in vivo. The results of this investigation demonstrate that the (PH2)2S2-COOH BFCA can be conveniently used as a precursor for labeling small receptor-avid peptides with diagnostic (99mTc) and therapeutic (188Re) radionuclides via the postconjugation approach in high yields.

L4 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2002 ACS

2002:52034 Luliberin in contraceptive vaccines. Szewczuk, Apolinary; Kurowska, Ewa (Lab. Bialek Sygnalowych, Inst. Immunol. i Terapii Dosw., Polska Akad. Nauk, Wroclaw, 53-114, Pol.). Biotechnologia (4), 47-54 (Polish) 2001. CODEN: BIECEV. ISSN: 0860-7796. Publisher: Instytut Chemii Bioorganicznej PAN.

AB Luliberin (LH releasing-hormone, LHRH) is the key regulatory decapeptide that controls reprodn. in mammals. It is secreted by the hypothalamus and after binding to a specific receptor it initiates a series of events leading to the liberation of lutropin (LH) and finally steroid sex hormones. In some case, the infertility in females and males may be

explained by mutations of the LH or LHRH receptor genes. Immunization of animals with **LHRH conjugates** induces high titers of antibodies, resulting in the cessation of the biol. function of the hormone and, in the end, in a temporary infertility. In this review, the application of LHRH vaccines as birth control for women and men was presented. Being effective and inexpensive, semisynthetic LHRH vaccines are useful in the animal breading for immunocastration. The best vaccines are totally synthetic LHRH ones, which are much safer than the CG- or LH-vaccines based on antigens isolated from human material, which may be contaminated with pathogens.

L4 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2002 ACS
2000:493406 Document No. 133:115532 Improved saponin adjuvant compositions and methods relating thereto. Walker, John (CSL Limited, Australia). PCT Int. Appl. WO 2000041720 A1 20000720, 53 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-AU1167 19991224. PRIORITY: AU 1999-8073 19990108.

AB An adjuvant compn. which comprises an anionic macromol. component particularly an ionic polysaccharide such as DEAE-dextran, and a saponin component, particularly an immunostimulating complex component. Immunogenic compns. comprising an immunogen and this adjuvant compn. are also disclosed together with methods of use thereof. Formulations with LHRH peptides may be used for regulation of fertility of domestic animals.

L4 ANSWER 5 OF 22 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
2000:405238 Document No.: PREV200000405238. Regulation of targeted chemotherapy with cytotoxic lutenizing hormone-releasing hormone analogue by epidermal growth factor. Krebs, Linda J.; Wang, Xiaopeng; Pudavar, Haridas E.; Bergey, Earl J.; Schally, Andrew V.; Nagy, Attila; Prasad, Paras N.; Liebow, Charles (1). (1) Department of Chemistry, Institute for Lasers, Photonics, and Biophotonics, State University of New York, NSM Complex, Room 811, Buffalo, NY, 14260-3000 USA. Cancer Research, (August 1, 2000) Vol. 60, No. 15, pp. 4194-4199. print. ISSN: 0008-5472. Language: English. Summary Language: English.

AB Targeting chemotherapy selectively to cancers can reduce the toxic side effects. AN-152, a conjugate of doxorubicin and (D-Lys6)-luteinizing hormone-releasing hormone (LH-RH), is more potent against LH-RH receptor-bearing cancers and produces less peripheral toxicity than doxorubicin. Many cancers, e.g., 50% of breast cancers, but few normal tissues express these receptors, providing a selective target for this cytotoxic conjugate. In this study, the effectiveness of AN-152 was heightened by receptor up-regulation. The cytotoxic effect of AN-152 can be regulated by the number of active LH-RH receptors on cancer cells. LH-RH receptor-positive (MCF-7) and -negative (UCI-107) cancer cells were treated with epidermal growth factor (EGF) or the somatostatin analogue, RC-160. EGF and RC-160 have been shown previously to regulate LH-RH receptors through phosphorylation. The effect of receptor regulation, by hormone exposure, on the cytotoxicity of AN-152 and doxorubicin and on the cellular uptake of AN-152, (D-Lys6)LH-RH, or doxorubicin was assessed by the 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide assay and by two-photon laser scanning microscopy. The results demonstrated that the cellular entry of the conjugate was: (a) specific for cancers with LH-RH receptors; (b) up-regulated by EGF; (c) down-regulated by RC-160; and (d) the cytotoxicity of the AN-152 paralleled the efficiency of entry. This study illustrates the potential use of receptor regulation for increasing the efficacy of chemotherapeutic approaches that are directed to cell surface receptors.

L4 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2002 ACS

2000:82250 Document No. 132:202765 Stability of cytotoxic luteinizing hormone-releasing hormone conjugate (AN-152) containing doxorubicin 14-O-hemiglutarate in mouse and human serum in vitro: implications for the design of preclinical studies. Nagy, Attila; Plonowski, Artur; Schally, Andrew V. (Endocrine, Polypeptide, and Cancer Institute, Veterans Affairs Medical Center and Section of Experimental Medicine, Department of Medicine, Tulane University School of Medicine, New Orleans, LA, 70112-2699, USA). Proc. Natl. Acad. Sci. U. S. A., 97(2), 829-834 (English) 2000. CODEN: PNASA6. ISSN: 0027-8424. Publisher: National Academy of Sciences.

AB Recently, the authors developed a series of cytotoxic peptide conjugates contg. 14-O-glutaryl esters of doxorubicin (DOX) or 2-pyrrolino-DOX (AN-201). Serum carboxylesterase enzymes (CE) can partially hydrolyze these conjugates in the circulation, releasing the cytotoxic radical, before the targeting is complete. CE activity in serum of nude mice is about 10 times higher than in human serum. Thus, the authors found that the t1/2 of AN-152, an analog of LH-releasing hormone (LH-RH) contg. DOX, at 0.3 mg/mL is 19.49.+-.0.74 min in mouse serum and 126.06.+-.3.03 min in human serum in vitro. The addn. of a CE inhibitor, diisopropyl fluorophosphate (DFP), to mouse serum in vitro significantly ($P < 0.01$) prolongs the t1/2 of AN-152 to 69.63.+-.4.44 min. When DFP is used in vivo, 400 nmol/kg cytotoxic somatostatin analog AN-238 contg. AN-201 is well tolerated by mice, whereas all animals die after the same dose without DFP. In contrast, DFP has no effect on the tolerance of AN-201. A better tolerance to AN-238 after DFP treatment is due to the selective uptake of AN-238 by somatostatin receptor-pos. tissues. The authors' results demonstrate that the suppression of the CE activity in nude mice greatly decreases the toxicity of cytotoxic hybrids contg. 2-pyrrolino-DOX 14-O-hemiglutarate and brings this animal model closer to the conditions that exist in humans. The use of DFP together with these peptide conjugates in nude mice permits a better understanding of their mechanism of action and improves the clin. predictability of the oncol. and toxicol. results.

L4 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2002 ACS

2000:655963 Document No. 134:21361 Oral absorption of peptides through the cobalamin (Vitamin B12) pathway in the rat intestine. Alsenz, Jochem; Russell-Jones, Greg J.; Westwood, Steven; Levet-Trafit, Bernard; De Smidt, P. Chris (Preclinical Research Department, Pharma Division, F. Hoffmann-La Roche Ltd., Basel, CH-4070, Switz.). Pharmaceutical Research, 17(7), 825-832 (English) 2000. CODEN: PHREEB. ISSN: 0724-8741. Publisher: Kluwer Academic/Plenum Publishers.

AB This study was aimed at examg. the extent and mechanism of uptake of cobalamin (Cbl)-conjugated peptides in vitro and in vivo. To enable acquisition of quant. absorption data of Cbl-peptides, metabolically stable octapeptides (DP3), with (Cbl-Hex-DP3) or without a hexyl spacer (Cbl-DP3), were coupled to Cbl and radiolabeled. For comparison, LHRH coupled to Cbl was used as metabolically susceptible peptide. Biol. recognition of Cbl-peptides was studied in the physiol. order: binding by Intrinsic Factor (IF), recognition and transport of the IF-complexes by IF-Cbl receptors (IFCR) on Caco-2 monolayers and oral absorption of the Cbl-conjugates in the rat. All Cbl-peptides bound to IF and the IF-complexes were recognized by IFCR receptors on Caco-2 monolayers. Binding was saturable and could be inhibited by a 20-fold excess of IF-Cbl, but not of Non-intrinsic Factor (NIF)-Cbl. Oral administration of these ligands to rats resulted in absorption of 53%, 45%, 42%, and 23% of the applied radioactivity for Cbl, Cbl-LHRH, Cbl-Hex-DP3, and Cbl-DP3, resp. Simultaneous administration of a > 105-fold excess of unlabeled Cbl reduced uptake of all compds. to < 4%. Tissue distribution and elimination of the metabolically stable Cbl-conjugates were comparable to Cbl. The endogenous Cbl uptake pathway can be exploited for oral peptide delivery as indicated by the specific and high (40-45%) uptake of metabolically stable Cbl-coupled octapeptides.

L4 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2002 ACS
2000:671870 Document No. 134:271108 Vitamin B12 uptake or nanoparticles versus conjugates. Russell-Jones, G. J.; Killinger, S.; Veitch, H. S.; McEwan, J. (Biotech Australia Pty. Ltd., Roseville, 2069, Australia). Proceedings of the International Symposium on Controlled Release of Bioactive Materials, 27th, 121-122 (English) 2000. CODEN: PCRMEY. ISSN: 1022-0178. Publisher: Controlled Release Society, Inc..
AB A comparison of the characteristics of pharmaceutical delivery via the vitamin B12 transport system and following entrapment within nanoparticles is given. The oral delivery of peptides, proteins and nanoparticles using the vitamin B12 transport system has now been shown to be tech. possible. There are inherent advantages and disadvantages in either system, which has meant that the advancement of the technol. has been greatly hindered by the many tech. problems that have been encountered during the development of each aspect of the technol. The solns. to these problems are in many ways generic to targeted oral delivery and as such should be of benefit to those working in this field.

L4 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2002 ACS
1999:708644 Document No. 131:327539 PEG-LHRH analog conjugates. El Tayar, Nabil; Zhao, Xuan; Bentley, Michael D. (Applied Research Systems ARS Holding N. V., Neth. Antilles). PCT Int. Appl. WO 9955376 A1 19991104, 21 pp. DESIGNATED STATES: W: AU, CA, IL, JP, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1999-US9160 19990428. PRIORITY: US 1998-83340 19980428.
AB PEG-LHRH analog conjugates are provided in which a PEG moiety is covalently bound to the OH of a serine residue of an LHRH analog either directly or via a bifunctional linker mol. such as an amino acid. The conjugate is subject to hydrolysis at physiol. pH or by esterases in the blood, thereby releasing free LHRH analog, which acts physiol. as an LH agonist or antagonist. The conjugates show good soly. in aq. media. The conjugates are prepd. by reaction of an LHRH analog with a PEGylating agent such as Me(OCH2CH2)mO(CH2)nCO2Z (n = 1-3; Z = N-succinimidyl or other activating group), or by total solid-phase synthesis using a PEGylated serine in place of serine. Thus, a Me-PEG-antide conjugate with the PEG chain bound to Ser4 dissolved in water to the extent of >30 mg/mL and was hydrolyzed at 37.degree. and pH 7.2 with a half-life of 5.56 h.

L4 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2002 ACS
1999:64702 Document No. 130:138280 Immunogenic LHRH compositions and methods relating thereto. McNamara, Michael Kerin (CSL Limited, Australia). PCT Int. Appl. WO 9902180 A1 19990121, 41 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-AU532 19980709. PRIORITY: AU 1997-7768 19970709.
AB The present invention relates generally to an immunogenic LHRH compn. and more particularly to an immunogenic LHRH compn. comprising an LHRH C-terminal fragment of at least five amino acids. The present invention is useful, inter alia, as a prophylactic and/or therapeutic agent for the modification of fertility and behavior patterns of animals, the achievement of livestock prodn. gains such as increasing growth, decreasing feed conversion ratios or the control of unwanted organoleptic characteristics or the treatment of disorders of the reproductive organs.

L4 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2002 ACS
1999:187050 Document No. 130:333094 Luteinizing hormone releasing hormone-RNase A conjugates specifically inhibit the proliferation of

LHRH-receptor-positive human prostate and breast tumor cells. Gho, Yong Song; Chae, Chi-Bom (Department of Life Science, Pohang University of Science and Technology, Pohang, 790-784, S. Korea). Mol. Cells, 9(1), 31-36 (English) 1999. CODEN: MOCEEK. ISSN: 1016-8478. Publisher: Springer-Verlag Singapore Pte. Ltd..

AB Human prostate and breast tumor cells produce LH-releasing hormone (LHRH) receptors on their cell surface even when they have lost dependency on sex steroid hormones for growth. To investigate whether LHRH can be used as a cell-binding moiety to deliver toxin mols. into prostate and breast tumor cells, LHRH-bovine RNase A conjugates were constructed using the chem. crosslinking method. The treatment of the LHRH receptor-pos. cells such as prostate LNCapFGC and breast MCF7 tumor cells with LHRH-RNase A conjugates resulted in a dose-dependent inhibition of growth. The cytotoxic activities of these conjugates were effectively reduced by the presence of exogenous LHRH. Either free RNase A or LHRH alone did not affect the proliferation of these cells. The LHRH-RNase A conjugates did not show cytotoxicity against FRTL5 and TM4 cells which do not express the LHRH receptors. These results suggest that LHRH can be used as a cell-binding mol. for the specific delivery of toxin mols. into the cells which express LHRH receptors on their surface. Thus, a new class of biomedicines that act as fusion proteins between LHRH and toxins will give us a new avenue for the treatment of human prostate and breast cancers, regardless of their steroid hormone dependency.

L4 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2002 ACS

1998:597928 Document No. 130:14229 Hybrid antitumor compounds containing LH-RH analog and 5-fluorouracil. Semko, Tatyana V.; Burov, Sergey V.; Vlasov, Guennady P. (Institute of Macromolecular Compounds of Russian Academy of Sciences, St.-Petersburg, 199004, Russia). Pept. 1996, Proc. Eur. Pept. Symp., 24th, Meeting Date 1996, 799-800. Editor(s): Ramage, Robert; Epton, Roger. Mayflower Scientific: Kingswinford, UK. (English) 1998. CODEN: 66RCA5.

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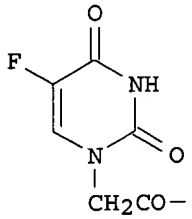
Q= 

AB One way to enhance the efficiency of hormone-dependent tumors treatment is the prepn. of hybrid compds. incorporating a cytotoxic agent and a peptide hormone capable of interacting with the cancer tissue, since it has corresponding receptors. This approach permits decreasing of the chemotherapeutic agent doses and, as a result, it's toxicity. On the other hand, it could escape the complications related to the possibility of tumor repopulation caused by the presence of hormone-independent cells. This work is devoted to the investigation of the LH-RH analogs' application as biospecific carrier for the cytotoxic drugs. The authors have synthesized a no. of LH-RH analogs R-Pro-D-Phe-Pro-Ser-Tyr-D-Lys(R1)-Leu-Arg-Pro-Gly-NH2 [I; R = H = H; R = Ac and R1 = H; R = palmitoyl, R1 = H; R = Ac, R1 = Q; R = R1 = Q; R = palmitoyl, R1 = Q] modified by a widely used anticancer agent 5-fluorouracil (5-FU) and/or the palmitoyl group (Pam). The latter modification is thought to be responsible for the modulation of peptide interaction with cell membrane. The structure of these substances is based on the sequence of LH-RH analog I (R = R1 = H) that possess high antitumor activity in the prostate cancer model (84% of the tum-our growth inhibition in a dose of 100 Vg/kg). The synthesis was

provided by the solid phase method on the MBHA resin with using of the Boc/Bzl strategy. 5-FU was introduced into the peptide structure in the form of ONp-ester of its 1-carboxymethyl deriv. (CMFU). Pam-Pro was attached by the std. solid phase procedure. All modified peptides exhibited significant inhibition of tumor growth in expts. in vivo on Aci rats bearing prostate tumors. The better antineoplastic properties in this cancer model was demonstrated by the peptide I (R = Pam, R1 = Q) (54-67% of the tumor growth inhibition in a wide dose range: 0.1-100 pg/kg). The compd. is considered to be active if the EC50 (measured by the method of 3H-thymidine incorporation) is less then 104 M. In order to increase the cytotoxic agent loading the authors have synthesized the macromol. compd. (conjugate 1) contg. 5-FU and peptide I (R = R1 = H) on the basis of poly-(N-vinylpyrrolidone-co-crotonic acid) (85:15; MWv = 30 000). Also, the authors have synthesized control polymers incorporating 5-FU or the LH-RH analog I (R = R1 = H), alone as well as the polymer with 5-FU and fibrinogen fragment (control substance 1, 2, and 3, resp.). The influence of these conjugates and LH-RH analogs I (R = R1 = H), I (R = Pam, R1 = H) and I (R = Pam, R1 = Q) on proliferation of the human carcinoma cell line which contains the LH-RH receptors, were tested in vitro. Nonmodified LH-RH analog I (R = R1 = H) was not active in vitro, whereas the peptides with the Pam residues I (R = Pam, R1 = H) and I (R = Pam, R1 = Q) had a direct influence on proliferation of this cell line. The only conjugate contg. both LH-RH analog and 5-FU (7) exhibited cytotoxic activity among the synthesized polymers. All control substances 1, 2, and 3 were not efficient. This fact suggests the receptor-mediated internalization of the macromol. hybrid compd. into tumor cells and the realization of the 5-FU cytotoxic capacity. The authors suppose the use of LH-RH analogs as biospecific carrier for targeting of chemotherapeutic agents to be a promising approach to the therapy of prostate, breast, ovary, pituitary, and other hormone-dependent tumors.

L4 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2002 ACS

1997:119199 Document No. 126:131780 Preparation of radiometal-binding analogs of luteinizing hormone releasing hormone. Mcbride, William J.; Karacay, Habibe; Griffiths, Gary L. (Immunomedics, Inc., USA). PCT Int. Appl. WO 9640756 A1 19961219, 58 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-US8695 19960607. PRIORITY: US 1995-474555 19950607.

AB Peptide derivs. of LH-RH that are capable of binding radionuclides are provided. The peptide derivs. are readily labeled with isotopes of rhenium or technetium, while retaining their ability to tightly bind LH-RH receptors. Methods for prepg. the labeled peptides and their use in methods of radiodiagnosis and radiotherapy are described. Thus, pGlu-His-Trp-Ser-Tyr-Lys(HSCH2CO-Gly-Cys)-Leu-Arg-Pro-Gly-NH2 was prepd. by std. soldi-phase methods using 9-fluorenylmethoxycarbonyl (Fmoc) chem. and radiolabeled with Na99mTcO4 or Na188ReO4. Prepd. radiolabeled LH-RH analogs were tested for receptor binding in vitro and also evaluated for biodistribution in mice.

L4 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2002 ACS

1996:548152 Document No. 125:256893 Utilization of the natural mechanism for vitamin B12 uptake for the oral delivery of therapeutics. Russell-Jones, Gregory (Biotech Australia P/L, Roseville, 2069, Australia). Eur. J. Pharm. Biopharm., 42(4), 241-249 (English) 1996. CODEN: EJPBEL. ISSN: 0939-6411.

AB A review with 45 refs. on the oral delivery of peptide hormones, protein pharmaceuticals, and even nanoparticles by their chem. linking to vitamin B12 and utilizing its natural receptor-mediated uptake mechanism.

L4 ANSWER 15 OF 22 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 2

96259573 EMBASE Document No.: 1996259573. Oral absorption studies of lipid-polylysine conjugates of thyrotropin releasing hormone (TRH) and luteinizing hormone releasing hormone (LHRH). Flinn N.; Hussain I.; Shaw A.; Artursson P.; Gibbons W.A.; Toth I.. School of Pharmacy, University of London, 29-39 Brunswick Square,London WC1N 1AX, United Kingdom. International Journal of Pharmaceutics 138/2 (167-174) 1996. ISSN: 0378-5173. CODEN: IJPHDE. Pub. Country: Netherlands. Language: English. Summary Language: English.

AB The lipoamino acids and their oligomers provide an excellent means of enhancing peptide lipophilicity and also helping to increase the stability of the peptide and protect it from enzymatic degradation. Thyrotropin releasing hormone (TRH) and luteinizing hormone releasing hormone (LHRH) were extended on the N-terminal with one and two lipoamino acids and labelled with the 3H-acetyl group. TRH and **LHRH conjugates** were also prepared where the compounds were extended with two lipoamino acids, a polylysine unit and the N-terminal labelled with the 3H-acetyl group. The higher lipophilicity resulted in a higher Caco-2 cell association and also a higher rate of oral uptake, The addition of the polylysine system increased the water solubility, as well as the oral uptake of the conjugates. The conjugates developed have been absorbed and detected after oral administration and appear to be stable for a considerable time in vivo.

L4 ANSWER 16 OF 22 SCISEARCH COPYRIGHT 2002 ISI (R) DUPLICATE 3

96:918205 The Genuine Article (R) Number: VW731. Oral absorption studies of lipid-polylysine conjugates of thyrotropin releasing hormone (TRH) and luteinizing hormone releasing hormone (LHRH) (vol 138, pg 167, 1996). Flinn N; Hussain I; Shaw A; Artursson P; Gibbons W A; Toth I (Reprint). UNIV LONDON, SCH PHARM, 29-39 BRUNSWICK SQ, LONDON WC1N 1AX, ENGLAND (Reprint); UNIV LONDON, SCH PHARM, LONDON WC1N 1AX, ENGLAND; UNIV UPPSALA, BIOMEDICUM, S-75123 UPPSALA, SWEDEN. INTERNATIONAL JOURNAL OF PHARMACEUTICS (25 OCT 1996) Vol. 143, No. 1, pp. 125-&. Publisher: ELSEVIER SCIENCE BV. PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS. ISSN: 0378-5173. Pub. country: ENGLAND; SWEDEN. Language: English. *ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS*

AB The lipoamino acids and their oligomers provide an excellent means of enhancing peptide lipophilicity and also helping to increase the stability of the peptide and protect it from enzymatic degradation. Thyrotropin releasing hormone (TRH) and luteinizing hormone releasing hormone (LHRH) were extended on the N-terminal with one and two lipoamino acids and labelled with the H-3-acetyl group. TRH and **LHRH conjugates** were also prepared where the compounds were extended with two lipoamino acids, a polylysine unit and the N-terminal labelled with the H-3-acetyl group. The higher lipophilicity resulted in a higher Caco-2 cell association and also a higher rate of oral uptake. The addition of the polylysine system increased the water solubility, as well as the oral uptake of the conjugates. The conjugates developed have been absorbed and detected after oral administration and appear to be stable for a considerable time in vivo.

L4 ANSWER 17 OF 22 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

1997:6777 Document No.: PREV199799305980. Oral absorption of lipidic conjugates of thyrotropin releasing hormone (TRH) and luteinizing hormone-releasing hormone (LHRH. Flinn, Nicholas; Toth, Istvan. Sch. Pharmacy, Univ. London, WC1N 1AX UK. Pharmaceutical Research (New York), (1996) Vol. 13, No. 9 SUPPL., pp. S84. Meeting Info.: Annual Meeting of the American Association of Pharmaceutical Scientists Seattle, Washington, USA October 27-31, 1996 ISSN: 0724-8741. Language: English.

L4 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2002 ACS

1991:608612 Document No. 115:208612 LHRH-keyhole limpet hemocyanin conjugates as LHRH antagonists. Prinzhaus, Gerhard (Fed. Rep. Ger.). Ger. Offen. DE 4003944 A1 19910822, 2 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1990-4003944 19900214.

AB Title conjugates are useful as immunostimulants and antihormone agents in receptor-pos. breast and prostate cancer patients.

L4 ANSWER 19 OF 22 CAPLUS COPYRIGHT 2002 ACS

1991:506492 Document No. 115:106492 Influence of the genetic background and carrier protein on the antibody response to GnRH. Sad, Subash; Talwar, G. P.; Raghupathy, Raj (Natl. Inst. Immunol., New Delhi, 110067, India). J. Reprod. Immunol., 19(2), 197-207 (English) 1991. CODEN: JRIMDR. ISSN: 0165-0378.

AB A vaccine against the gonadotropin-releasing hormone (GnRH) is being developed as an immunol. method for the treatment of prostatic enlargement. The influence of the genetic back-ground on immune responses to GnRH conjugated to diphtheria toxoid (DT) was investigated. Mice of different strains were injected with the conjugate and the antibody levels against GnRH and DT quantitated in order to examine the effect of genetic background on immune responses to the hapten and the carrier. All immunized animals produced antibodies to DT. Anti-GnRH antibodies were generated by all strains of mice except 129. The low anti-GnRH response in the 129 strain mice did not appear to be MHC-linked,as C57BL/6 mice, which bear the same MHC haplotype as 129 mice, were able to generate a strong anti-GnRH response. The non-responsiveness to the hapten (GnRH) in 129 strain mice was overcome by the use of an "alternate carrier" approach.

L4 ANSWER 20 OF 22 CAPLUS COPYRIGHT 2002 ACS

1988:623417 Document No. 109:223417 Composition and method for immunological castration and spaying. Tilbrook, Alan John; Fairclough, Robert John (Victoria, Australia, State of, Australia). PCT Int. Appl. WO 8800056 A1 19880114, 43 pp. DESIGNATED STATES: W: AU, DK, FI, JP, NO, US; RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1987-AU199 19870703. PRIORITY: AU 1986-6721 19860703; AU 1986-9205 19861127.

AB A compn. for the prodn. in animals of antibodies specific for LH-RH comprises .gtoreq.2 different carriers coupled to LH-RH or its analogs in amts. sufficient to elicit an immune response against LH-RH. The compns. are used to suppress male social and sexual behavior and female estrus cyclicity and ovulation in domestic animals. Merino ram lambs were immunized with a mixt. of LH-RH-tetanus toxoid, LH-RH-staphylococcal protein A, and LH-RH-keyhole limpet hemocyanin conjugates (carbodiimide-coupled) in Freund's complete adjuvant with booster injections of the conjugates in Freund's incomplete adjuvant. All the lambs tested gave a substantial immune response with a mean titer of 1:5146 and a titer range of 1:600 to 1:20,000, whereas none of the lambs immunized with carrier protein alone showed any immune response and lambs immunized with single LH-RH conjugates gave variable results in both antibody titer and the no. of animals responding.

L4 ANSWER 21 OF 22 MEDLINE

88275706 Document Number: 88275706. PubMed ID: 3134587. Active immunization to luteinizing hormone releasing hormone to inhibit the induction of mammary tumors in the rat. Ravdin P M; Jordan V C. (Department of Human Oncology, University of Wisconsin Cancer Center, Madison 53792.) LIFE SCIENCES, (1988) 43 (2) 117-23. Journal code: L62; 0375521. ISSN: 0024-3205. Pub. country: ENGLAND: United Kingdom. Language: English.

AB Immunization of female rats with a bovine serum albumin-luteinizing hormone releasing hormone conjugate results in suppression of dimethylbenzanthracene mammary tumor incidence. Tumor incidence was 1.3, and 1.29 tumors per rat in bovine serum albumin alone (n = 10) and unimmunized (n = 18) control groups, but no tumors were found in the bovine serum albumin-luteinizing hormone releasing hormone conjugate immunized animals (n = 10). In a second experiment immunization with bovine serum albumin-luteinizing hormone releasing hormone conjugates reduced tumor incidence to 0.3 tumors per rat (n = 10) from the 1.2 tumors

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per animal seen in the control animals (n = 10) immunized with bovine serum albumin alone. Bovine serum albumin-luteinizing hormone immunization caused the production of anti-LHRH antibodies, an interruption of estrous cycles, lowered serum estradiol and progesterone levels, and atrophy of the ovaries and uteri. Immunization BSA-hormone conjugates is a novel anti-tumor strategy.

L4 ANSWER 22 OF 22 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 4
82066430 EMBASE Document No.: 1982066430. Important role of the carrier in the induction of antibody response without Freund's complete adjuvant against a 'self' peptide luteinizing hormone-releasing hormone (LHRH). Shastri N.; Manhar S.K.; Talwar G.P.. Dept. Biochem., All India Inst. Med. Sci., New Delhi, India. American Journal of Reproductive Immunology 1/5 (262-265) 1981.
CODEN: AAJID6. Pub. Country: United States. Language: English.
AB Antibody response to the decapeptide luteinizing hormone-releasing hormone (LHRH) was induced in mice without use of Freund's complete adjuvant. The conventionally employed conjugates of LHRH with bovine serum albumin were poor immunogens and required potent adjuvants. In contrast, LHRH linked covalently to tetanus toxoid or keyhole limpet hemocyanin-generated antibodies with alum as adjuvant. Methods are described for preparation of **LHRH conjugates** with these carrier proteins with defined molar composition.

=> s l1 and polysaccharide
L5 1 L1 AND POLYSACCHARIDE

=> d l5 cbib abs

L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
2000:493406 Document No. 133:115532 Improved saponin adjuvant compositions and methods relating thereto. Walker, John (CSL Limited, Australia). PCT Int. Appl. WO 2000041720 A1 20000720, 53 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-AU1167 19991224. PRIORITY: AU 1999-8073 19990108.
AB An adjuvant compn. which comprises an anionic macromol. component particularly an ionic **polysaccharide** such as DEAE-dextran, and a saponin component, particularly an immunostimulating complex component. Immunogenic compns. comprising an immunogen and this adjuvant compn. are also disclosed together with methods of use thereof. Formulations with LHRH peptides may be used for regulation of fertility of domestic animals.

=> s l1 and DEAE dextran
L6 1 L1 AND DEAE DEXTRAN

=> d l6 cbib abs

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
2000:493406 Document No. 133:115532 Improved saponin adjuvant compositions and methods relating thereto. Walker, John (CSL Limited, Australia). PCT Int. Appl. WO 2000041720 A1 20000720, 53 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE,

BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-AU1167 19991224. PRIORITY: AU 1999-8073 19990108.

AB An adjuvant compn. which comprises an anionic macromol. component particularly an ionic polysaccharide such as **DEAE-dextran**, and a saponin component, particularly an immunostimulating complex component. Immunogenic compns. comprising an immunogen and this adjuvant compn. are also disclosed together with methods of use thereof. Formulations with LHRH peptides may be used for regulation of fertility of domestic animals.

=> s mcnamara m?/au
L7 1110 MCNAMARA M?/AU

=> s l7 and LHRH
L8 1 L7 AND LHRH

=> d l8 cbib abs

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
1999:64702 Document No. 130:138280 Immunogenic **LHRH** compositions and methods relating thereto. **McNamara, Michael Kerin** (CSL Limited, Australia). PCT Int. Appl. WO 9902180 A1 19990121, 41 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1998-AU532 19980709. PRIORITY: AU 1997-7768 19970709.

AB The present invention relates generally to an immunogenic **LHRH** compn. and more particularly to an immunogenic **LHRH** compn. comprising an **LHRH** C-terminal fragment of at least five amino acids. The present invention is useful, inter alia, as a prophylactic and/or therapeutic agent for the modification of fertility and behavior patterns of animals, the achievement of livestock prodn. gains such as increasing growth, decreasing feed conversion ratios or the control of unwanted organoleptic characteristics or the treatment of disorders of the reproductive organs.

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L11	L8 and DEAE	19	L11
L10	L9 and DEAE	0	L10
L9	L7 and polysaccharide	4	L9
L8	L7 and dipheria taxoid	353	L8
L7	(GnRH)adj(conjugate)	8	L7
L6	GnRH	977	L6
L5	l1 and DEAE	1	L5
L4	l1 and polysaccharide	3	L4
L3	l1 and diphtheria	3	L3
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L1	(LHRH)adj(conjugate)	8	L1

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NEWS 3	Oct 09	Korean abstracts now included in Derwent World Patents Index
NEWS 4	Oct 09	Number of Derwent World Patents Index updates increased
NEWS 5	Oct 15	Calculated properties now in the REGISTRY/ZREGISTRY File
NEWS 6	Oct 22	Over 1 million reactions added to CASREACT
NEWS 7	Oct 22	DGENE GETSIM has been improved
NEWS 8	Oct 29	AAASD no longer available
NEWS 9	Nov 19	New Search Capabilities USPATFULL and USPAT2
NEWS 10	Nov 19	TOXCENTER(SM) - new toxicology file now available on STN
NEWS 11	Nov 29	COPPERLIT now available on STN
NEWS 12	Nov 29	DWPI revisions to NTIS and US Provisional Numbers
NEWS 13	Nov 30	Files VETU and VETB to have open access
NEWS 14	Dec 10	WPINDEX/WPIDS/WPIX New and Revised Manual Codes for 2002
NEWS 15	Dec 10	DGENE BLAST Homology Search
NEWS 16	Dec 17	WELDASEARCH now available on STN
NEWS 17	Dec 17	STANDARDS now available on STN
NEWS 18	Dec 17	New fields for DPCI
NEWS 19	Dec 19	CAS Roles modified
NEWS 20	Dec 19	1907-1946 data and page images added to CA and CAplus
NEWS 21	Jan 25	BLAST(R) searching in REGISTRY available in STN on the Web
NEWS 22	Jan 25	Searching with the P indicator for Preparations
NEWS 23	Jan 29	FSTA has been reloaded and moves to weekly updates
NEWS 24	Feb 01	DKILIT now produced by FIZ Karlsruhe and has a new update frequency
NEWS 25	Feb 19	Access via Tymnet and SprintNet Eliminated Effective 3/31/02
NEWS 26	Mar 08	Gene Names now available in BIOSIS

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NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

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FILE 'EMBASE' ENTERED AT 09:23:02 ON 13 MAR 2002

FILE 'BIOSIS' ENTERED AT 09:23:02 ON 13 MAR 2002

FILE 'SCISEARCH' ENTERED AT 09:23:02 ON 13 MAR 2002

FILE 'CAPLUS' ENTERED AT 09:23:02 ON 13 MAR 2002

=> s GnRH conjugate
L1 48 GNRH CONJUGATE

=> s l1 and diptheria toxoid
L2 0 L1 AND DIPTHERIA TOXOID

=> dup remove l1
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L3 20 DUP REMOVE L1 (28 DUPLICATES REMOVED)

=> s l3 and DEAE
L4 3 L3 AND DEAE

=> dup remove l4
PROCESSING COMPLETED FOR L4
L5 3 DUP REMOVE L4 (0 DUPLICATES REMOVED)

=> d l5 1-3 cbib abs

L5 ANSWER 1 OF 3 MEDLINE
97060654 Document Number: 97060654. PubMed ID: 8904700. Effect of castration method and the provision of local anesthesia on plasma cortisol, scrotal circumference, growth, and feed intake of bull calves. Fisher A D; Crowe M A; Alonso de la Varga M E; Enright W J. (Teagasc, Grange Research Centre, Dunsany, Co. Meath, Ireland.) JOURNAL OF ANIMAL SCIENCE, (1996 Oct) 74 (10) 2336-43. Journal code: HC7; 8003002. ISSN: 0021-8812. Pub. country: United States. Language: English.

AB To determine the effects of castration of calves, with or without local anesthesia, on plasma cortisol, scrotal circumference, ADG, and ADFI, 56 Friesian bulls (5.5 mo of age; mean +/- SE BW = 173 +/- 2 kg) were randomly assigned to each of seven treatments: 1) control (CON); 2) s.c. injection of .1 mg of a human serum albumin-**GnRH conjugate** with **DEAE**-dextran adjuvant (HSA-GnRH); 3) burdizzo castration without local anesthetic (BURD); 4) burdizzo castration following local anesthetic administration (BURD + LA); 5) surgical castration without local anesthetic (SURG); 6) surgical castration following local anesthetic administration (SURG + LA); and 7) local anesthetic administration alone (LAA). Blood samples for cortisol analyses were taken via jugular catheter from -2 to 10 h and at 24, 48,

and 72 h relative to treatment. Average daily feed intakes were recorded for 5-d periods and calves weighed at 7-d intervals before and after treatment. Local anesthetic alone had no effect (P > .10) on any variable. The HSA-GnRH calves had elevated (P < .05) plasma cortisol from 2 to 6 h compared with CON calves. Peak plasma cortisol was elevated (P < .01) in BURD, BURD + LA, SURG, and SURG + LA compared with CON calves. The SURG calves (46.0 ng/mL) had higher (P < .03) peak cortisol than BURD (31.4 ng/mL) and SURG + LA (35.4 ng/mL) calves. There was no difference in peak cortisol between BURD and BURD + LA (26.5 ng/mL) calves. The ADG from d 0 to 7 was reduced (P < .05) in calves in BURD + LA, SURG, and SURG + LA treatments (-.01, -.83 and -.24 kg, respectively) compared with CON calves (.54 kg). The ADFI were reduced (P < .05) in BURD and BURD + LA calves during d 1 to 5 and in BURD + LA, SURG, and SURG + LA calves during d 6 to 10 compared with CON calves. The scrotal circumferences of BURD and BURD + LA calves were greater (P < .05) than those of CON calves for 7- and 35-d periods post-castration, respectively. Castration induced increases in cortisol and decreases in ADG and ADFI. Surgical castration induced a greater plasma cortisol response than burdizzo castration, and the administration of local anesthetic reduced the cortisol response of surgical castrates but was less effective for burdizzo castrates.

L5 ANSWER 2 OF 3 MEDLINE

96204047 Document Number: 96204047. PubMed ID: 8617674. Immunization of prepubertal beef heifers against gonadotropin-releasing hormone: immune, estrus, ovarian, and growth responses. Prendiville D J; Enright W J; Crowe M A; Vaughan L; Roche J F. (Teagasc, Grange Research Centre, Dunsany, Co. Meath, University College Dublin, Ballsbridge, Ireland.) JOURNAL OF ANIMAL SCIENCE, (1995 Oct) 73 (10) 3030-7. Journal code: HC7; 8003002. ISSN: 0021-8812. Pub. country: United States. Language: English.

AB To develop an effective immunization protocol against human serum albumin-Cys-Gly-GnRH (HSA-**GnRH**) **conjugate** to delay the onset of puberty in heifers, 58 heifers (8 mo of age; mean +/- SE BW = 203 +/- 1 kg) were randomly assigned to each of six treatments: 1) controls, .1 mg of HSA, with diethylaminoethyl (**DEAE**)-dextran as adjuvant, on d 0 and 28; 2) .1 mg of HSA-GnRH, with **DEAE**-dextran, on d 0; 3) as 2) and booster on d 28; 4) as 3) but boosters also on d 84, 140, 196, and 252; 5) as 2) but half the conjugate given with **DEAE** -dextran adjuvant and half with non-ulcerative Freund's adjuvant (NUFA), injected in two separate sites; and 6) as 2) but the conjugate given with **DEAE**-dextran and NUFA, emulsified and injected in two sites. The duration of the experiment was 342 d. Mean plasma GnRH antibody titers (samples every 2 wk) for heifers in Treatments 2 to 6 were 9.4 +/- 1.16, 20.6 +/- 2.21, 43.9 +/- 2.86, 27.9 +/- 2.67, and 44.5 +/- 3.75% binding at a plasma dilution of 1:640. The mean number of times estrus was observed in heifers was less (P < .05; pooled SEM = .53) in Treatments 4 (.2) and 6 (2.4) than in Treatments 1, 2, 3, and 5 (7.8, 7.0, 7.0, and 6.6, respectively). The mean interval to the onset of puberty (the first increase in plasma progesterone > or = .5 ng/mL for > or = 10 d with samples at 3- to 4-d intervals) was greater (P < .05; pooled SEM = 11.6) for heifers in treatments 4 (339 d) and 6 (276 d) than for heifers in Treatments 1, 2, 3, and 5 (164, 159, 165, and 170 d, respectively). Mean ADG of heifers was reduced (P < .05) in treatments 2, 3, 4, and 6 (.71, .72, .68, and .69 kg, respectively) compared with controls (.77). In summary, the multiple booster immunization treatment induced and maintained sufficient anti-GnRH titer to delay puberty for 175 d; a single immunization against GnRH with **DEAE** and NUFA increased antibody titers enough to delay puberty for 112 d. However, GnRH immunization treatments reduced ADG of heifers in Treatments 2, 3, 4, and 6.

L5 ANSWER 3 OF 3 MEDLINE

96008063 Document Number: 96008063. PubMed ID: 8567476. Immunization of heifers against gonadotropin-releasing hormone: antibody titers, ovarian function, body growth, and carcass characteristics. Prendiville D J; Enright W J; Crowe M A; Finnerty M; Hynes N; Roche J F. (Teagasc, Grange

Research Centre, Dunsany, Co. Meath, Dublin, Ireland.) JOURNAL OF ANIMAL SCIENCE, (1995 Aug) 73 (8) 2382-9. Journal code: HC7; 8003002. ISSN: 0021-8812. Pub. country: United States. Language: English.

AB To investigate the effects of active immunization of cyclic beef heifers with different doses of a human serum albumin-Cys-Gly-GnRH (HSA-**GnRH**) **conjugate** on antibody titers, ovarian function, body growth, and carcass characteristics, 32 heifers (BW = 477 +/- 7.1 kg; mean +/- SE) were assigned to one of four immunization treatments: .1 mg of HSA or .01, .1, or 1.0 mg of HSA-GnRH, respectively. All heifers received a primary (d 0) and booster (d 28) immunization using **DEAE**-dextran as adjuvant. The duration of the experiment was 158 d. Overall antibody titers against GnRH were greater (P < .05) for heifers immunized against GnRH (13 +/- 3.3, 22 +/- 3.8, and 19 +/- 2.8% binding at a plasma dilution of 1: 640 for Treatments 2 to.4, respectively) than for controls (1 +/- .1%). The numbers of heifers that became anestrous (plasma progesterone < .5 ng/mL for > 21 d) were 1/8, 8/8, 7/8, and 8/8, respectively. The interval from primary immunization to anestrus (40.7 +/- 6 d) and the duration of anestrus (78 +/- 7 d) were not affected by dose of HSA-**GnRH conjugate**. The number of ovulations detected was reduced (P < .05) in GnRH-immunized (4.6 +/- .64, 4.0 +/- .70, and 3.6 +/- .60 for Treatments 2 to 4, respectively) compared with control heifers (9.4 +/- .20). During induced anestrus, follicular growth was generally arrested (< 5 mm in diameter) and plasma estradiol decreased. (ABSTRACT TRUNCATED AT 250 WORDS)

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=> s l3 and polysarccharide
L6            0 L3 AND POLYSARCCHARIDE

=> d his

     (FILE 'HOME' ENTERED AT 09:22:47 ON 13 MAR 2002)

     FILE 'MEDLINE, EMBASE, BIOSIS, SCISEARCH, CAPLUS' ENTERED AT 09:23:02 ON
     13 MAR 2002
L1           48 S GNRH CONJUGATE
L2            0 S L1 AND DIPTHERIA TOXOID
L3           20 DUP REMOVE L1 (28 DUPLICATES REMOVED)
L4            3 S L3 AND DEAE
L5            3 DUP REMOVE L4 (0 DUPLICATES REMOVED)
L6            0 S L3 AND POLYSARCCHARIDE

=> d l3 1-20 cbib abs
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L3 ANSWER 1 OF 20 MEDLINE DUPLICATE 1

2001567657 Document Number: 21530443. PubMed ID: 11672903. The role of the individual amino acids of a GnRH-tandem-dimer peptide used as an antigen for immunocastration of male piglets determined with systematic alanine replacements. Turkstra J A; Oonk H B; Schaaper W M; Meloen R H. (ID-Lelystad, Institute for Animal Science and Health, Edelhertweg 15, 8219 PH Lelystad, The Netherlands.. j.a.turkstra@id.wag-ur.nl) . VACCINE, (2001 Nov 12) 20 (3-4) 406-12. Journal code: 8406899. ISSN: 0264-410X. Pub. country: England: United Kingdom. Language: English.

AB Immunocastration targeting gonadotropin releasing hormone (GnRH) can be obtained in male piglets using native **GnRH conjugates**. However, due to insufficient efficacy of these conjugates, improved GnRH antigens, like peptides existing of repeats of the GnRH amino acid sequence, have been designed. We previously reported about a dimerised GnRH-tandem peptide with a D-Lys at position 6 of the native GnRH sequence (G6k-TD) being highly effective. To evaluate the contribution of each individual amino acid of the GnRH decapeptide to the efficacy of the G6k-TD peptide, each amino acid was replaced consecutively by alanine (Ala-scan). The G6k-TD peptides were conjugated to ovalbumin, used for immunisation and tested for their ability to elicit GnRH antibodies and to

immunocastrate male piglets. The results show that four out of nine amino acids (pGlu-1, Ser-4, Arg-8 and Gly-10) can be replaced by alanine without negatively affecting immunocastration efficacy. Replacement of amino acids in other positions (Tyr-5, Leu-7 and Pro-9) gave partial decrease of efficacy, respectively, five, six and six out of seven piglets were immunocastrated. Replacements at two other positions (His-2 and Trp-3) completely negated immunocastration activity. Thus, seven out of nine amino acid positions in the basic unit of G6k-TD can be substituted by alanine without affecting immunocastration efficacy.

L3 ANSWER 2 OF 20 MEDLINE DUPLICATE 2

2001497605 Document Number: 21430384. PubMed ID: 11547560. Generation of free radicals by emodic acid and its [D-Lys6]**GnRH-conjugate**. Rahimipour S; Bilkis I; Peron V; Gescheidt G; Barbosa F; Mazur Y; Koch Y; Weiner L; Fridkin M. (Departments of Organic Chemistry and Neurobiology, Weizmann Institute of Science, Rehovot, Israel.) PHOTOCHEMISTRY AND PHOTOBIOLOGY, (2001 Aug) 74 (2) 226-36. Journal code: P69; 0376425. ISSN: 0031-8655. Pub. country: United States. Language: English.

AB In an attempt to develop an efficient chemotherapeutic agent targeted at malignant cells that express receptors to gonadotropin releasing hormone (GnRH) we coupled [D-Lys6]GnRH covalently to an emodin derivative, i.e. emodic acid (Emo) to yield [D-Lys6(Emo)]GnRH. Emodin is a naturally occurring anthraquinone which is widely used as a laxative and has other versatile biological activities. Physico-chemical studies employing electron paramagnetic resonance and electrochemistry of the conjugate as well as the (Emo) moiety showed that these compounds could be easily reduced either chemically, photochemically or enzymatically to their corresponding semiquinones. In the presence of oxygen the semiquinones generated reactive oxygen species (ROS), mainly superoxide and hydroxyl radicals, which were detected by the spin trapping method. Moreover, upon irradiation with visible light these compounds produced ROS and a highly reactive excited triplet state of Emo, which by itself may cause the oxidation of certain electron acceptors such as amino acids and bases of nucleic acids. Thus, [D-Lys6]GnRH-photosensitizer conjugates may be potentially used for targeted photodynamic chemotherapy aimed at treating cancer cells that carry GnRH receptors. These conjugates may also induce cytotoxicity in the dark similar to common conventional chemotherapeutic agents. The peptidic moiety, [D-Lys6]GnRH, was found to be stable toward highly reactive ROS generated either from enzymatic reduction or upon photoirradiation. The physico-chemical properties of Emo were only marginally influenced by the peptidic [D-Lys6]GnRH carrier.

L3 ANSWER 3 OF 20 SCISEARCH COPYRIGHT 2002 ISI (R)

2000:828735 The Genuine Article (R) Number: 368TF. Influence on antiproliferative activity of structural modification and conjugation of gonadotropin-releasing hormone (GnRH) analogues. Kalnay A; Palyi I (Reprint); Vincze B; Mihalik R; Mezo I; Pato J; Seprodi J; Lovas S; Murphy R F. NATL INST ONCOL, RATH GYORGY ST 7-9, H-1122 BUDAPEST, HUNGARY (Reprint); NATL INST ONCOL, H-1122 BUDAPEST, HUNGARY; SEMMELWEIS UNIV MED, SCH MED, INST PATHOL & EXPT CANC RES 1, BUDAPEST, HUNGARY; HUNGARIAN ACAD SCI, JOINT RES ORG, BUDAPEST, HUNGARY; SEMMELWEIS UNIV MED, SCH MED, DEPT MED CHEM MOL BIOL & PATHOBIOCHEM, BUDAPEST, HUNGARY; HUNGARIAN ACAD SCI, CENT RES INST CHEM, BUDAPEST, HUNGARY; CREIGHTON UNIV, SCH MED, DEPT BIOMED SCI, OMAHA, NE 68178. CELL PROLIFERATION (OCT 2000) Vol. 33, No. 5, pp. 275-285. Publisher: BLACKWELL SCIENCE LTD. P O BOX 88, OSNEY MEAD, OXFORD OX2 0NE, OXON, ENGLAND. ISSN: 0960-7722. Pub. country: HUNGARY; USA . Language: English.

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The effect of various GnRH analogues, and their conjugates on proliferation, clonogenicity and cell cycle phase distribution of MCF-7 and Ishikawa human cancer cell lines was studied. GnRH-III, a sea lamprey GnRH analogue reduced cell proliferation by 35% and clonogenicity by 55%, Structural modifications either decreased, or did not alter biological

activity. Conjugation of GnRH analogues including MI-1544, MI-1892, and GnRH-III with poly(N-vinylpyrrolidone-co-maleic acid) (P) through a tetrapeptide spacer GFLG(X) substantially increased the inhibitory effect of the GnRH analogues. The conjugate P-X-GnRH-III induced significant accumulation of cells in the G2/M phase; from 8% to 15.6% at 24 h and 9.8% to 15% at 48 h. It was concluded that conjugation of various GnRH analogues substantially enhanced their antiproliferative activity, strongly reduced cell clonogenicity and retarded cell progression through the cell division cycle at the G2/M phase.

L3 ANSWER 4 OF 20 MEDLINE DUPLICATE 3
2000498774 Document Number: 20322726. PubMed ID: 10866357. Peptides and antitumor activity. Development and investigation of some peptides with antitumor activity. Teplan I. (Department of Medical Chemistry, Semmelweis University of Medicine, Budapest, Hungary.) ACTA BIOLOGICA HUNGARICA, (2000) 51 (1) 1-29. Ref: 35. Journal code: 0DF; 8404358. ISSN: 0236-5383. Pub. country: Hungary. Language: English.

AB We developed a group of synthetic analogs of GnRH and Somatostatin to inhibit the tumor growth of different kind. The GnRH analogs decreasing the gonadotroph and steroid hormone levels act on the hormone dependent tumors and influence their growth. One of the most effective antitumor analog was patented under the name FOLLIGEN which inhibited the breast cancer caused by DMBA in rats without any side-effects. Other inhibitory analogs of GnRH with long-lasting effect were effective in the treatment of breast, ovary and prostate tumors. Another analog [alpha-Asp(DEA)]6,Gln8-hGnRH showed a very low endocrine but high antitumor effect in both in vitro and in vivo experiments. Its tritium labeled derivative exhibited specific binding sites on human tumor cell lines. We synthesized the analogs of GnRH-III with effective selective antitumor activity which does not alter the ovarian cycle of rats but inhibits the colony-formation of human breast cancer cell lines and has a significant antiproliferative effect. We also synthesized conjugates of potent GnRH analogs with a branched chain polylysine backbone which induce a 33-35% decrease of cell numbers of MCF-7 and MDA-MB-231 human breast cancer cell lines and 45-50% inhibition of cell proliferation. Another conjugate decreased the tumor growth of MDA-MB-231 xenografts by 80% in a treatment of 9 weeks and even tumor free animals could be found among the ones treated. Using these radiolabeled peptide hormone analogs we found that human tumor cell lines and xenografts specifically bind the **GnRH conjugates**. We also synthesized a series of Somatostatin analogs which inhibit tyrosine kinases and the growth of several breast, prostate and colon tumor cell lines. One of our best analogs was a heptapeptide, TT-232, which strongly inhibited the tyrosine kinase activity and the cell-proliferation in different colon tumor cells. However, it did not inhibit the growth hormone release either in vitro or in vivo from rat pituitary cells. The TT-232 was found to be effective on 60 human tumor cell lines, it significantly inhibited the tumor growth on different animal tumor models, and induced apoptosis, as a result of which some animals became tumor free. The TT-232 inhibited the tumor growth of PC3 prostate xenografts with 60% and caused a 100% survival of mice 60 days after the transplantation. It is being preclinically tested at present. We have shown that the new GnRH analogs acting without any hormonal effect and the Somatostatin analogs with strong antitumor and tyrosine kinase inhibitory activity but no hormonal effect may represent a breakthrough in the research of the antitumor peptides, having direct effect on tumor cells.

L3 ANSWER 5 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
2001:109519 Document No.: PREV200100109519. Internalization of multimeric vector peptide-**GnRH conjugates**. Chico, D. E. (1); Miller, B. T.; Collins, T. J.. (1) Univ. of Texas Medical Branch, Galveston, TX USA. Society for Neuroscience Abstracts, (2000) Vol. 26, No. 1-2, pp. Abstract No.-718.9. print. Meeting Info.: 30th Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 04-09, 2000

Society for Neuroscience. ISSN: 0190-5295. Language: English. Summary Language: English.

AB Antennapedia-derived vector peptides (Antp-vp) efficiently carry cargo molecules into cells without using specific carriers or receptors. One hypothesis for the mechanism of vector peptide delivery states that vector peptides aggregate on the surface of the cell membrane prior to internalization (Derossi et.al., J. Biol. Chem. 269: 10444-50, 1994). Therefore, we wanted to assess whether multimeric forms of Antp-vectors linked to neuropeptide cargoes would exhibit increased internalization. Previously, we demonstrated that branched coupling via lysine side chains between Antp-vp and GnRH analogs resulted in increased potency of the GnRH moiety. In this study, we compared monomeric, dimeric, and trimeric (Antp-vp)-GnRH branched conjugates to determine if multimerization had any effect on the internalization and bioactivity of the GnRH cargoes. Dimerization of branched (Antp-vp)-GnRH peptides was accomplished by creating disulfide linkages between the cysteine residues on the vector peptides. Trimeric conjugates were synthesized by cross-linking monomers with tris-(2-maleimidoethyl)amine, a novel trivalent reagent. Conjugate formation was confirmed by a combination of HPLC, amino acid analyses, and mass spectrometry. Bioactivity was assessed by measuring conjugate-induced LH release from dispersed rat pituitary cells. Results demonstrated appreciable LH release by these multimeric compounds. However, the formation of multimeric forms of (Antp-vp)-GnRH significantly reduced the efficiency of internalization of the GnRH cargoes. (Study funded by a grant from the Texas Higher Education Coordinating Board Advanced Research Program.)

L3 ANSWER 6 OF 20 CAPLUS COPYRIGHT 2002 ACS

1999:396652 Document No. 131:194592 Properties of **GnRH conjugates** in vivo. Mezo, Imre; Vincze, B.; Toth, G.; Pato, J.; Gaal, D.; Kremmer, T.; Kalnay, A.; Gulyas, E.; Teplan, I.; Otvos, F.; Lovas, S.; Murphy, R. F.; Palyi, I. (Dept. Medical Chemistry, Semmelweis Univ. Medicine, Budapest, Hung.). Pept. Proc. Am. Pept. Symp., 15th, Meeting Date 1997, 561-562. Editor(s): Tam, James P.; Kaumaya, Pravin T. P. Kluwer: Dordrecht, Neth. (English) 1999. CODEN: 67UCAR.

AB The direct antitumor activity of GnRH-III in vivo is increased by conjugation to poly(N-vinylpyrrolidone-co-maleic acid) (P) (mol. wt. c.a. 10,000) through a GFLG tetrapeptide spacer (X). To examine the biodistribution and clearance of the conjugates and components thereof, the following radiolabeled derivs. were prepd.: carboxyl groups (2%) of P were coupled with 125I-tyrosylamide before conjugation through (X) with GnRH-III to form 125I-tyrosylamide-P-X-GnRH-III, and [3H]GnRH-III was conjugated with P-X to form P-X-[3H]GnRH-III. Compds. were injected s.c. into CBA/CA mice with MCF-7 human breast cancer xenografts. In general, the results show that, conjugation of GnRH-III with the copolymer favors tissue retention of intact bound peptide. Conjugation apparently affords protection from proteolytic degrdn. in blood circulation, whereas the free peptide resembles polypeptide hormones of comparable size in that it is readily cleared. This may contribute to the superior antitumor effects of conjugates in vivo.

L3 ANSWER 7 OF 20 SCISEARCH COPYRIGHT 2002 ISI (R)

1998:530287 The Genuine Article (R) Number: ZX708. Active immunization against a recombinant **GnRH conjugate** (rGnRH) in female white-tailed deer.. Becker S E (Reprint); Katz L S. RUTGERS STATE UNIV, DEPT ANIM SCI, NEW BRUNSWICK, NJ 08903. BIOLOGY OF REPRODUCTION (JUN 1998) Vol. 58, Supp. [1], pp. 328-328. Publisher: SOC STUDY REPRODUCTION. 1603 MONROE ST, MADISON, WI 53711-2021. ISSN: 0006-3363. Pub. country: USA. Language: English.

L3 ANSWER 8 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

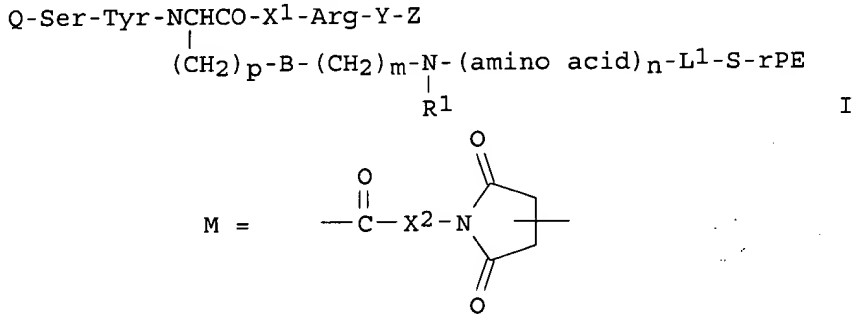
1998:379915 Document No.: PREV199800379915. Active immunization against a recombinant **GnRH conjugate** (rGnRH) in female white-tailed deer. Becker, S. E.; Katz, L. S.. Dep. Anim. Sci., Rutgers

State Univ. New Jersey, New Brunswick, NJ UK. Biology of Reproduction, (1998) Vol. 58, No. SUPPL. 1, pp. 174-175. Meeting Info.: Thirty-first Annual Meeting of the Society for the Study of Reproduction College Station, Texas, USA August 8-11, 1998 Society for the Study of Reproduction. ISSN: 0006-3363. Language: English.

L3 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2002 ACS

1997:385683 Document No. 127:5355 Preparation of GnRH/reduced Pseudomonas exotoxin conjugates as sterilizing and anticancer agents. Tolman, Richard L.; Lombardo, Victoria K. (Merck and Co., Inc., USA; Tolman, Richard L.; Lombardo, Victoria K.). PCT Int. Appl. WO 9715317 A1 19970501, 46 pp. DESIGNATED STATES: W: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, CZ, EE, GE, HU, IL, IS, JP, KG, KR, KZ, LC, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1996-US17041 19961023. PRIORITY: US 1995-5899 19951027.

GI



AB **GnRH conjugates** I [rPE = reduced Pseudomonas exotoxin linked to L1 via the thiol S; X1 = Leu, Nle; Y = Pro, Hyp; Z = Gly-NH2, D-Ala-NH2, NHEt, NHPr, NHNHCONH2; Q = pGlu-His-Trp, Ac-Phe(Cl-4)-Phe(Cl-4)-Trp, 3-indolylpropionyl; p = 1-2; m = 1-4; n = 0-1; B = CH2, O, S, N; R1 = H, C1-6 alkyl, C3-8 cycloalkyl; (amino acid)n = naturally occurring L-amino acid of its D-stereoisomer; L1 = linker M, COCH2, COCH2CH2S; X2 = C1-5 alkylene, C6H4, C5-6 cycloalkylene] are constructed from GnRH or an analog thereof, a reduced Pseudomonas exotoxin, or a variant thereof, and a unique linking group. The conjugates are administered to male and female animals to sterilize said animals or to reduce tumors that require sex steroids for growth. The instant conjugates are therefore useful as sterilizing agents and anticancer agents. Thus, GnRH analog H-pGlu-His-Tyr-Ser-D-Lys(R)-Leu-Arg-Pro-Gly-NH2 (II; R = H) (solid-phase prepn. given) reacted with .beta.-maleimidopropionic acid N-hydroxysuccinimide ester to give adduct II (R = 3-maleimidopropyl). Reduced Pseudomonas exotoxin PE38QQR was then conjugated to adduct II (R = 3-maleimidopropyl).

L3 ANSWER 10 OF 20 MEDLINE DUPLICATE 4

97060654 Document Number: 97060654. PubMed ID: 8904700. Effect of castration method and the provision of local anesthesia on plasma cortisol, scrotal circumference, growth, and feed intake of bull calves. Fisher A D; Crowe M A; Alonso de la Varga M E; Enright W J. (Teagasc, Grange Research Centre, Dunsany, Co. Meath, Ireland.) JOURNAL OF ANIMAL SCIENCE, (1996 Oct) 74 (10) 2336-43. Journal code: HC7; 8003002. ISSN: 0021-8812. Pub. country: United States. Language: English.

AB To determine the effects of castration of calves, with or without local

anesthesia, on plasma cortisol, scrotal circumference, ADG, and ADFI, 56 Friesian bulls (5.5 mo of age; mean +/- SE BW = 173 +/- 2 kg) were randomly assigned to each of seven treatments: 1) control (CON); 2) s.c. injection of .1 mg of a human serum albumin-**GnRH conjugate** with DEAE-dextran adjuvant (HSA-GnRH); 3) burdizzo castration without local anesthetic (BURD); 4) burdizzo castration following local anesthetic administration (BURD + LA); 5) surgical castration without local anesthetic (SURG); 6) surgical castration following local anesthetic administration (SURG + LA); and 7) local anesthetic administration alone (LAA). Blood samples for cortisol analyses were taken via jugular catheter from -2 to 10 h and at 24, 48, and 72 h relative to treatment. Average daily feed intakes were recorded for 5-d periods and calves weighed at 7-d intervals before and after treatment. Local anesthetic alone had no effect ($P > .10$) on any variable. The HSA-GnRH calves had elevated ($P < .05$) plasma cortisol from 2 to 6 h compared with CON calves. Peak plasma cortisol was elevated ($P < .01$) in BURD, BURD + LA, SURG, and SURG + LA compared with CON calves. The SURG calves (46.0 ng/mL) had higher ($P < .03$) peak cortisol than BURD (31.4 ng/mL) and SURG + LA (35.4 ng/mL) calves. There was no difference in peak cortisol between BURD and BURD + LA (26.5 ng/mL) calves. The ADG from d 0 to 7 was reduced ($P < .05$) in calves in BURD + LA, SURG, and SURG + LA treatments (-.01, -.83 and -.24 kg, respectively) compared with CON calves (.54 kg). The ADFI were reduced ($P < .05$) in BURD and BURD + LA calves during d 1 to 5 and in BURD + LA, SURG, and SURG + LA calves during d 6 to 10 compared with CON calves. The scrotal circumferences of BURD and BURD + LA calves were greater ($P < .05$) than those of CON calves for 7- and 35-d periods post-castration, respectively. Castration induced increases in cortisol and decreases in ADG and ADFI. Surgical castration induced a greater plasma cortisol response than burdizzo castration, and the administration of local anesthetic reduced the cortisol response of surgical castrates but was less effective for burdizzo castrates.

L3 ANSWER 11 OF 20 MEDLINE DUPLICATE 5

97367851 Document Number: 97367851. PubMed ID: 9227921. Normal or induced secretory patterns of luteinising hormone and follicle-stimulating hormone in anoestrous gonadotrophin-releasing hormone-immunised and cyclic control heifers. Prendiville D J; Enright W J; Crowe M A; Finnerty M; Roche J F. (Teagasc, Grange Research Centre, Dunsany, Co. Meath, Ireland.) ANIMAL REPRODUCTION SCIENCE, (1996 Dec 16) 45 (3) 177-90. Journal code: CV3; 7807205. ISSN: 0378-4320. Pub. country: Netherlands. Language: English.

AB The objective was to determine the effect of gonadotrophin-releasing hormone (GnRH), GnRH analogue (GnRH-A) or oestradiol administration on luteinising hormone (LH) and follicle-stimulating hormone (FSH) release in GnRH-immunised anoestrous and control cyclic heifers. Thirty-two heifers (477 +/- 7.1 kg) were immunised against either human serum albumin (HSA; controls; n = 8), or a HSA-**GnRH conjugate**. On day 70 after primary immunisation, control heifers (n = 4 per treatment; day 3 of cycle) received either (a) 2.5 micrograms GnRH or (b) 2.5 micrograms of GnRH-A (Buserelin) and GnRH-immunised heifers (blocked by GnRH antibody titre; n = 6 per treatment) received either (c) saline, (d) 2.5 micrograms GnRH, (e) 25 micrograms GnRH or (f) 2.5 micrograms GnRH-A, intravenously. On day 105, 1 mg oestradiol was injected (intramuscularly) into control (n = 6) and GnRH-immunised anoestrous heifers with either low (13.4 +/- 1.9% binding at 1:640; n = 6) or high GnRH antibody titres (33.4 +/- 4.8% binding; n = 6). Data were analysed by ANOVA. Mean plasma LH and FSH concentrations on day 69 were higher ($P < 0.05$) in control than in GnRH-immunised heifers (3.1 +/- 0.16 vs. 2.5 +/- 0.12 ng LH ml-1 and 22.5 +/- 0.73 vs. 17.1 +/- 0.64 ng FSH ml-1, respectively). The number of LH pulses was higher ($P < 0.05$) in control than in GnRH-immunised heifers on day 69 (3.4 +/- 0.45 and 1.0 +/- 0.26 pulses per 6 h, respectively). On day 70, 2.5 micrograms GnRH increased ($P < 0.05$) LH concentrations in control but not in GnRH-immunised heifers, while both 25 micrograms GnRH and 2.5 micrograms GnRH-A increased ($P < 0.05$) LH concentrations in GnRH-immunised heifers, and 2.5 micrograms GnRH-A increased LH in

controls. FSH was increased (P < 0.05) in GnRH-immunised heifers following 25 micrograms GnRH and 2.5 micrograms GnRH-A. Oestradiol challenge increased (P < 0.05) LH concentrations during the 13-24 h period after challenge with a greater (P < 0.05) increase in control than in GnRH-immunised heifers. FSH concentrations were decreased (P < 0.05) for at least 30 h after oestradiol challenge. In conclusion, GnRH immunisation decreased LH pulsatility and mean LH and FSH concentrations. GnRH antibodies neutralised low doses of GnRH (2.5 micrograms), but not high doses of GnRH (25 micrograms) and GnRH-A (2.5 micrograms). GnRH immunisation decreased the rise in LH concentrations following oestradiol challenge.

L3 ANSWER 12 OF 20 SCISEARCH COPYRIGHT 2002 ISI (R)
96:262068 The Genuine Article (R) Number: UC128. IN-VIVO STUDIES OF THE NEW GONADOTROPIN-RELEASING-HORMONE ANTAGONIST-COPOLYMER CONJUGATES HAVING ANTITUMOR-ACTIVITY. VINCZE B (Reprint); PALYI I; GAAL D; PATO J; MORA M; MEZO I; TEPLAN I; SEPRODI J. NATL INST ONCOL, DEPT EXPT CLIN LAB, POB 21, H-1525 BUDAPEST 114, HUNGARY (Reprint). CANCER DETECTION AND PREVENTION (1996) Vol. 20, No. 2, pp. 153-159. ISSN: 0361-090X. Pub. country: HUNGARY . Language: ENGLISH.
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The aim of the study was to test in vivo the gonadotropin-releasing hormone (GnRH) antagonists and their conjugates showing antitumor activities in vitro. The in vivo experiments with the human GnRH antagonist MI-1544 (Ac-D-Trp(1,3),D-Cpa(2),D-Lys(6),D-Ala(10))-GnRH the chicken GnRH antagonist MI-1892 (Ac-D-Trp(1,3),D-Cpa(2),Lys(5),/beta-Asp(DEA)/(6). Gln(8),D-Ala(10))-GnRH, and their copolymer conjugates were carried out on MCF-7 and MDA-MB-231 human breast tumors xenografted in immunosuppressed CBA/Ca HRIJ-T6 female mice and on MXT mouse mammary tumor in BDF1 mice. The P-X-1544 and P-X-1892 conjugates were prepared by coupling the GnRH antagonists to macromolecule copolymer through biodegradable spacers. MI-1544 and its conjugate had strong, whereas MI-1892 and its conjugate had slight, castration effect in rats. All of them showed selective antitumor activity. The conjugates, given daily, inhibited both types of xenogratts by 42 to 49%. Their activity was stronger in MXT mammary tumor (72 to 61%). The in vivo effect of GnRH antagonists was largely increased by coupling them to nonbiodegradable macromolecule carriers of polyanionic character. P-X-1544 and P-X-1892 GnRH antagonist-macromolecule conjugates might become important therapeutic agents for the treatment of breast cancer.

L3 ANSWER 13 OF 20 SCISEARCH COPYRIGHT 2002 ISI (R)
96:262067 The Genuine Article (R) Number: UC128. EFFECT OF GONADOTROPIN-RELEASING-HORMONE ANALOGS AND THEIR CONJUGATES ON GONADOTROPIN-RELEASING-HORMONE RECEPTOR-POSITIVE HUMAN CANCER CELL-LINES. PALYI I (Reprint); VINCZE B; KALNAY A; TURI G; MEZO I; TEPLAN I; SEPRODI J; PATO J; MORA M. NATL INST ONCOL, DEPT CELL BIOL, POB 21, H-1525 BUDAPEST 114, HUNGARY (Reprint). CANCER DETECTION AND PREVENTION (1996) Vol. 20, No. 2, pp. 146-152. ISSN: 0361-090X. Pub. country: HUNGARY. Language: ENGLISH.
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The purpose of the present investigation was to develop new gonadotropin-releasing hormone (GnRH) antagonists and to increase their stability and antitumor effect by conjugation with carrier macromolecules. Antitumor effect was evaluated using clonogenic assay, cell counting for antiproliferation, and sulforhodamine B method. The presence of GnRH-binding sites in human cancer cell lines (MCF-7, MDA-MB-231, Ishikawa, LNCaP) was proved. The direct growth inhibition of tumor cell lines is achieved with relatively high analog concentrations (10(-10)-10(-5) M). We have developed new GnRH analogs of human and chicken origin. MI-1544 (Ac-D-Trp(1,3),D-Cpa(2),D-Lys(6),D-Ala(10))GnRH and the chicken GnRH antagonist MI-1892 (Ac-D-Trp(1,3),D-Cpa(2),Lys(5),[beta-Asp(DEA)](6),Gln(8),D-Ala(10))-GnRH have stronger direct antitumor properties than the agonists. The antagonists inhibited

proliferation of GnRH receptor-positive human cancer cell lines by 28 to 38%. GnRH peptide analogs were coupled with macromolecules through biodegradable groups, to enhance their antitumor effects. The antagonists reduced survival of MCF-7 and MDA-MB-231 cells by 38 to 48% and 20 to 41%, respectively. They showed less activity against human endometrial and prostate cancer cells (10-20%). The copolymer (P) as polyanionic carrier molecule reached only 15 to 20% survival reduction in all cell lines. However, the copolymer GnRH antagonist conjugates P-X-1892 and P-X-1544 killed 95 to 98% of cells at doses corresponding to the GnRH analog concentration. These compounds having antitumor activity could be tried for the treatment of prostate, breast, and endometrium cancer.

L3 ANSWER 14 OF 20 MEDLINE DUPLICATE 6

96204047 Document Number: 96204047. PubMed ID: 8617674. Immunization of prepubertal beef heifers against gonadotropin-releasing hormone: immune, estrus, ovarian, and growth responses. Prendiville D J; Enright W J; Crowe M A; Vaughan L; Roche J F. (Teagasc, Grange Research Centre, Dunsany, Co. Meath, University College Dublin, Ballsbridge, Ireland.) JOURNAL OF ANIMAL SCIENCE, (1995 Oct) 73 (10) 3030-7. Journal code: HC7; 8003002. ISSN: 0021-8812. Pub. country: United States. Language: English.

AB To develop an effective immunization protocol against human serum albumin-Cys-Gly-GnRH (HSA-**GnRH**) **conjugate** to delay the onset of puberty in heifers, 58 heifers (8 mo of age; mean +/- SE BW = 203 +/- 1 kg) were randomly assigned to each of six treatments: 1) controls, .1 mg of HSA, with diethylaminoethyl (DEAE)-dextran as adjuvant, on d 0 and 28; 2) .1 mg of HSA-GnRH, with DEAE-dextran, on d 0; 3) as 2) and booster on d 28; 4) as 3) but boosters also on d 84, 140, 196, and 252; 5) as 2) but half the conjugate given with DEAE-dextran adjuvant and half with non-ulcerative Freund's adjuvant (NUFA), injected in two separate sites; and 6) as 2) but the conjugate given with DEAE-dextran and NUFA, emulsified and injected in two sites. The duration of the experiment was 342 d. Mean plasma GnRH antibody titers (samples every 2 wk) for heifers in Treatments 2 to 6 were 9.4 +/- 1.16, 20.6 +/- 2.21, 43.9 +/- 2.86, 27.9 +/- 2.67, and 44.5 +/- 3.75% binding at a plasma dilution of 1:640. The mean number of times estrus was observed in heifers was less ($P < .05$; pooled SEM = .53) in Treatments 4 (.2) and 6 (2.4) than in Treatments 1, 2, 3, and 5 (7.8, 7.0, 7.0, and 6.6, respectively). The mean interval to the onset of puberty (the first increase in plasma progesterone > or = .5 ng/mL for > or = 10 d with samples at 3- to 4-d intervals) was greater ($P < .05$; pooled SEM = 11.6) for heifers in treatments 4 (339 d) and 6 (276 d) than for heifers in Treatments 1, 2, 3, and 5 (164, 159, 165, and 170 d, respectively). Mean ADG of heifers was reduced ($P < .05$) in treatments 2, 3, 4, and 6 (.71, .72, .68, and .69 kg, respectively) compared with controls (.77). In summary, the multiple booster immunization treatment induced and maintained sufficient anti-GnRH titer to delay puberty for 175 d; a single immunization against GnRH with DEAE and NUFA increased antibody titers enough to delay puberty for 112 d. However, GnRH immunization treatments reduced ADG of heifers in Treatments 2, 3, 4, and 6.

L3 ANSWER 15 OF 20 MEDLINE DUPLICATE 7

96008063 Document Number: 96008063. PubMed ID: 8567476. Immunization of heifers against gonadotropin-releasing hormone: antibody titers, ovarian function, body growth, and carcass characteristics. Prendiville D J; Enright W J; Crowe M A; Finnerty M; Hynes N; Roche J F. (Teagasc, Grange Research Centre, Dunsany, Co. Meath, Dublin, Ireland.) JOURNAL OF ANIMAL SCIENCE, (1995 Aug) 73 (8) 2382-9. Journal code: HC7; 8003002. ISSN: 0021-8812. Pub. country: United States. Language: English.

AB To investigate the effects of active immunization of cyclic beef heifers with different doses of a human serum albumin-Cys-Gly-GnRH (HSA-**GnRH**) **conjugate** on antibody titers, ovarian function, body growth, and carcass characteristics, 32 heifers (BW = 477 +/- 7.1 kg; mean +/- SE) were assigned to one of four immunization treatments: .1 mg of HSA or .01, .1, or 1.0 mg of HSA-GnRH, respectively. All heifers

received a primary (d 0) and booster (d 28) immunization using DEAE-dextran as adjuvant. The duration of the experiment was 158 d. Overall antibody titers against GnRH were greater (P < .05) for heifers immunized against GnRH (13 +/- 3.3, 22 +/- 3.8, and 19 +/- 2.8% binding at a plasma dilution of 1: 640 for Treatments 2 to 4, respectively) than for controls (1 +/- .1%). The numbers of heifers that became anestrous (plasma progesterone < .5 ng/mL for > 21 d) were 1/8, 8/8, 7/8, and 8/8, respectively. The interval from primary immunization to anestrus (40.7 +/- 6 d) and the duration of anestrus (78 +/- 7 d) were not affected by dose of HSA-**GnRH conjugate**. The number of ovulations detected was reduced (P < .05) in GnRH-immunized (4.6 +/- .64, 4.0 +/- .70, and 3.6 +/- .60 for Treatments 2 to 4, respectively) compared with control heifers (9.4 +/- .20). During induced anestrus, follicular growth was generally arrested (< 5 mm in diameter) and plasma estradiol decreased. (ABSTRACT TRUNCATED AT 250 WORDS)

L3 ANSWER 16 OF 20 MEDLINE

95080156 Document Number: 95080156. PubMed ID: 7988473. C-type natriuretic peptide (CNP) in the pituitary: is CNP an autocrine regulator of gonadotropes?. McArdle C A; Olcese J; Schmidt C; Poch A; Kratzmeier M; Middendorff R. (Department of Medicine, University of Bristol, United Kingdom.) ENDOCRINOLOGY, (1994 Dec) 135 (6) 2794-801. Journal code: EGZ; 0375040. ISSN: 0013-7227. Pub. country: United States. Language: English.

AB Natriuretic peptides act via receptors with intrinsic guanylate cyclase activity to stimulate cGMP production and are thought to be important regulators of neuroendocrine systems. C-Type natriuretic peptide (CNP) is of particular interest in this regard because the highest tissue concentrations of CNP occur in the anterior pituitary, where it is a highly potent stimulator of cGMP production. Here we show that pituitaries of rats and mice contain abundant CNP prohormone messenger RNA (mRNA), but no atrial natriuretic peptide or B-type natriuretic peptide prohormone mRNAs. Using reverse transcriptase-polymerase chain reaction, both A- and B-type natriuretic peptide receptor (GC-A and GC-B, respectively) transcripts were detected in rat and mouse pituitaries, although only the GC-B mRNA was measurable by Northern blotting. Immunohistochemistry revealed CNP-positive cells in the anterior, but not posterior, pituitaries of rats, and the vast majority of these cells were identified as gonadotropes by colocalization of CNP and LH immunoreactivities. Targeted toxicity using GnRH conjugated to the ricin-A chain was used to test whether gonadotropes are also direct targets for GnRH action. The conjugate dose dependently inhibited the proliferation of alpha T3-1 cells (gonadotrope-derived cells with GnRH receptors), but had no such effect on GH3 cells (which do not have GnRH receptors). Culture of rat pituitary cells with the conjugate caused comparable reductions in CNP-stimulated cGMP production, GnRH-stimulated LH release, and CA2+ ionophore (A23187)-stimulated LH release, but did not measurably alter cAMP production in response to pituitary adenylate cyclase-activating polypeptide. We conclude that CNP is synthesized in the pituitary, where it is located predominantly in gonadotropes, and GC-B receptors expressed in the pituitary mediate the direct effects of CNP in gonadotropes. Together with the recent demonstration of CNP synthesis and action in alpha T3-1 cells, the data suggest CNP to be a novel autocrine regulator of gonadotropes.

L3 ANSWER 17 OF 20 MEDLINE DUPLICATE 8

95017847 Document Number: 95017847. PubMed ID: 7932367. Immunization of bull calves with a GnRH analogue-human serum albumin conjugate: effect of conjugate dose, type of adjuvant and booster interval on immune, endocrine, testicular and growth responses. Finnerty M; Enright W J; Morrison C A; Roche J F. (Teagasc, Grange Research Centre, Dunsany, Co Meath, Ireland.) JOURNAL OF REPRODUCTION AND FERTILITY, (1994 Jul) 101 (2) 333-43. Journal code: JWN; 0376367. ISSN: 0022-4251. Pub. country: ENGLAND: United Kingdom. Language: English.

AB Bull calves were immunized with GnRH analogue-human serum albumin

(HSA-Cys-Gly-**GnRH**) **conjugate** to determine the effects of dose, adjuvant type and interval between primary and booster injections on plasma testosterone and LH concentrations, and testes and body growth. Friesian bull calves aged between 8 and 10 weeks (n = 72) were blocked according to age and weight and, within block, randomly assigned to 12 treatment combinations (n = 6 per treatment combination) in a 3 x 2 x 2 factorial plan. Main effects were (i) conjugate dose (0.0, 0.1 or 1.0 mg HSA-Cys-Gly-GnRH), (ii) adjuvant (diethylaminoethyl-dextran or non-ulcerative Freund's adjuvant), and (iii) interval between primary (day 0) injection and booster injection (day 28 or 56). Plasma testosterone and LH concentrations and antibody titres were determined in blood samples collected at 14 day intervals during the experiment (140 days). Testicular measurements were taken in situ every 28 days. Antibody titres (% binding at 1:160 dilution) were > or = 10% 28 days after booster injection and remained high for 140 days in 47 of 48 GnRH-immunized bulls. The mean titre was higher ($P < 0.05$) in response to the 1.0 mg dose compared with the 0.1 mg dose (37.7% versus 29.6% binding, respectively; pooled SED 2.55%). Mean LH and testosterone concentrations were reduced ($P < 0.05$) in immunized animals compared with controls. However, the 1.0 mg dose decreased mean testosterone concentrations by a greater extent ($P < 0.001$) than either the 0.1 mg or 0.0 mg doses. Testes length and depth, and scrotal circumference were decreased ($P < 0.001$) in immunized animals compared with controls; however, the 1.0 mg dose decreased ($P < 0.001$) testes parameters to the greatest extent. There was no effect of conjugate dose on average daily gain in body mass. It is concluded that (i) dose of conjugate, type of adjuvant and interval between primary and booster injections affected antibody titres, (ii) the use of 0.1 or 1.0 mg of HSA-Cys-Gly-GnRH decreased LH and testosterone concentrations, and testicular development throughout the experiment, without adversely affecting body growth, and (iii) an effective protocol is 1.0 mg GnRH-HSA conjugate, given in the adjuvant diethylaminoethyl dextran, with a primary-booster interval of 56 days.

L3 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2002 ACS

1994:104362 Document No. 120:104362 Synthetic gonadotropin-releasing hormone (GnRH) vaccines incorporating GnRH and synthetic T-helper epitopes. Sad, Subash; Chauhan, V.S.; Arunan, K.; Raghupathy, Raj (Nat. Inst. Immunol., New Delhi, India). Vaccine, 11(11), 1145-50 (English) 1993. CODEN: VACCDE. ISSN: 0264-410X.

AB A vaccine against the gonadotrophin-releasing hormone (GnRH) is being developed as an immunol. method for treatment of prostatic hypertrophy, based on the observation that active immunization against GnRH leads to the prodn. of anti-GnRH antibodies which results in the shrinkage of the prostate gland. The authors have been investigating the regulation of anti-GnRH antibody responses by carrier mols. In previous studies the authors showed that the use of large protein mols. as carriers limits the use of such a vaccine owing to potential problems of carrier-induced anti-haptenic suppression. In this report the authors show that synthetic T-helper epitopes can be used as carriers for the generation of anti-GnRH antibody responses.

L3 ANSWER 19 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 9

1993:54988 Document No.: PREV199395031290. The effect of active immunization against gonadotropin-hormone-releasing-hormone on growth performance and sample joint composition of bulls. Lobley, G. E. (1); Connell, A. (1); Morris, B.; Anderson, R. (1); Clayton, J.; Williams, P. E. V.; Nevison, I. M. (1). (1) Rowett Res. Inst., Bucksburn, Aberdeen AB2 9SB. Animal Production, (1992) Vol. 55, No. 2, pp. 193-202. ISSN: 0003-3561. Language: English.

AB Forty-six Simmental times British Friesian bull calves were allocated to six treatment groups. In four groups (each of eight animals) half the animals were given a prime injection of gonadotropin-hormone-releasing-hormone (GnRH) either as the decapeptide or as an octapeptide (residues 3

to 10) conjugated to egg albumen. Prime injection times were at 3, 4, 5 or 6 months of age. All animals were boosted with a **GnRH conjugate**, similar to that used for the prime injection, at 8 months, six other animals were surgically castrated while the remaining eight were left as untreated bull controls. Weight gain and consumption of a barley-based diet offered ad libitum were recorded for individual animals. Blood samples were taken at a minimum of fortnightly intervals and the serum analysed for antibody titre against GnRH, testosterone and insulin-like growth factor 1 (IGF-1). Animals were slaughtered at 12 months and chemical analyses performed on the disectible material of the 10th rib for protein, lipid, ash and water conent. Greater antibody titres and a longer period of low serum testosterone were achieved with the octapeptide conjugate compared with the decapetide. Serum IGF-1 slowly decreased following both surgical- and effective immuno-castration. There were no significant differences in food intake between the groups. Both steers and the more responsive immunocastrates had higher fat (P lt 0.01), lower protein (P lt 0.05) and water concentrations (P lt 0.01) in tissues from a rib sample joint compared with untreated bulls. As immunoresponsiveness decreased there were indications of compensatory changes in body compsition. The technique may be applicable during periods of, for example, mixed grazing for bulls.

L3 ANSWER 20 OF 20 CAPLUS COPYRIGHT 2002 ACS

1990:70933 Document No. 112:70933 Composition and method to release an immune reaction to gonadotropin-releasing hormone (GnRH) and method for the immunosterilization of mammals. Silversides, David W.; Murphy, Bruce D.; Mapletoft, Reuben J.; Misra, Vikram; Allen, Anne Francis (Mobay Corp., USA). Eur. Pat. Appl. EP 309863 A2 19890405, 11 pp. DESIGNATED STATES: R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1988-115371 19880920. PRIORITY: US 1987-103489 19870930.

AB A mammal is immunol. sterilized by administration of a GnRH analog conjugated to an adjuvant to elicit an immune response to the mammal's endogenous GnRH. The analog has .gtoreq.1 of the 10 amino acids of GnRH replaced with another amino acid, esp. with cysteine in position 1, 6, or 10. Thus, keyhole limpet hemocyanin was activated with m-maleimidobenzoylsulfosuccinimide ester, conjugated with synthetic [Cys6]-GnRH, and used in an adjuvant-contg. formulation to immunize mice for prodn. of antibodies to GnRH. A similar prepn. contg. [Cys1]- and [Cys10]**GnRH conjugates** and alhydrogel as adjuvant, administered (500 .mu.g i.m.) to bulls on days 0 and 35, suppressed testosterone prodn.

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